All manuals and user guides at all-guides.com

acer

Acer AL2051W
Service Guide

all-guides.com

All manuals and user guides at all-guides.com

Service Guide Version and Revision

No.	Version	Release Date	Revision History	TPV Model
1	1.0	Dec-15-2005	Initial release (Draft Version)	TA90KAUHKGAEAP
2	2.0	Jan-04-2006	Final Version	TA90KAUDBGAFACP

All manuals and user guides at all-guides.com

Copyright

Copyright © 2006 by Acer Incorporated. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of Acer Incorporated.

Disclaimer

The information in this guide is subject to change without notice. Acer Incorporated makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties of merchantability or fitness for any particular purpose. Any Acer Incorporated software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (and not Acer Incorporated, its distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software.

Intel is a registered trademark of Intel Corporation.
Pentium and Pentium II/III are trademarks of Intel Corporation.
Other brand and product names are trademarks and/or registered trademarks of their respective holders.

Trademarks

Acer is a registered trademark of Acer Incorporated.
All other trademarks are property of their respective owners.

Conventions

The following conventions are used in this manual:

Screen messages	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Remind you to do specific actions relevant to the accomplishment of procedures.

All manuals and user guides at all-guides.com

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS,you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

Warning: (For FCC Certified Models)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
3. The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibility of the user to correct such interference.

As ENERGY STAR® Partner our company has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Warning:

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerous high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

All manuals and user guides at all-guides.com

Precautions

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable trolley, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a trolley or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, uses a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long periods of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.
- For use only with the attached power adapter (Output 12Vdc), which has UL, CSA listed license.

Special Notes On LCD Monitors

The following symptoms are normal with LCD monitor and do not indicate a problem.

Notes

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

All manuals and user guides at all-guides.com

Table Of Contents

Chapter 1	**Monitor Features**	**6**
	Introduction	7
	Electrical Requirements	8
	LCD Monitor General Specification	9
	LCD Panel Specification	10
	Support Timing	11
	Block Diagram	12
	Main Board Diagram	13
	Software Flow chart	14
	Main Board Layout	16
	Front Bezel	17
	Rear Bezel	18
Chapter 2	**Operating Instructions**	**19**
	External Controls	19
	Front Panel Controls	20
	Adjusting the picture	21
	Hot-Key Menu	24
	OSD Message	24
	Logo	25
Chapter 3	**Machine Disassembly**	**26**
Chapter 4	**Troubleshooting**	**34**
Chapter 5	**Connector Information**	**40**
Chapter 6	**FRU (Field Replacement Unit) List**	**41**
	Exploded Diagram	42
Chapter 7	**Schematic Diagram**	**46**
	Main Board	46
	Power/Inverter Board	53

all-guides.com

All manuals and user guides at all-guides.com

Monitor Features

Chapter 1

Introduction

Scope

This specification defines the requirements for the 20" MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15 pin D-sub VGA connector and 24 pin DVI connector. It also supports VESA DPMS power management and plug & play function. There is a build-in stereo audio amplifier with OSD control to drive a pair of speakers.

Description

The LCD monitor is designed with the latest LCD technology to provide a performance oriented product with no radiation. This will alleviate the growing health concerns. It is also a space saving design, allowing more desktop space, and comparing to the traditional CRT monitor, it consumes less power and gets less weight in addition MTBF target is 50k hours or more.

Chart of AL2051W

Panel	20" AUO M201EW01 V.2
Signal Interface	D-SUB
	DVI
Sync Type	Separate / Compatible
Color Temp User Adjust	Support
DDC	DDC2B
Speaker	Yes
Headphone Jack	Yes
Microphone Jack	No
USB Hub	Not support
Tilt / Swivel	Yes / No

All manuals and user guides at all-guides.com

Electrical Requirements

Standard Test Conditions

All tests shall be performed under the following conditions, unless otherwise specified.

Ambient light	:	Dark room (<1cd/m2)
Viewing distance	:	40 cm for LCD performance, 20 cm for LCD failures
Warm up time		
All specifications	:	30 minutes
Fully functional	:	5 seconds
Measuring equipment	:	Chroma 7120 signal generator or equivalent, directly
		Connected to the monitor under test.
		Minolta CA100 photometer, or equivalent
Control settings		
User brightness control	:	Set to Factory preset value (cut off raster)
User contrast control	:	T Set to factory preset value, which allows that the brightest two of 32 linear distributed gray-scales (0 700mv) can be distinguished.
User red/white balance,		In the center (unless otherwise specified)
Green/white balance and		
Blue/white balance control	:	
Power input	:	230V 5 , 50 3 Hz
Ambient temperature	:	20±5

Measurement systems

The units of measure stated in this document are listed below:

1 gamma = 1 nano tesla

1 tesla = 10,000 gauss

cm = in x 2.54

Lb = kg x 2.2

Degrees F = [°C x 1.8] + 32

Degrees C = [°F - 32]/1.8

u' = 4x/(-2x + 12y + 3)

v' = 9y/(-2x + 12y + 3)

x = (27u'/4)/[(9u'/2) - 12v' + 9]

y = (3v')/[(9u'/2) - 12v' + 9]

nits = cd/(m2) = Ft-L x 3.426

lux = foot-candle x 10.76

All manuals and user guides at all-guides.com

LCD Monitor General Specification

Panel type	20.1 inch-wide Color TFT-LCD Module
	M201EW01.
Display size	433.44 (H) x 270.90(V)
Display mode	VGA : 640 480 (60/72/75/85 Hz)
	SVGA : 800 600 (56/60/72/75/85 Hz)
	XGA : 1024 768 (60/70/75/85 Hz)
	SXGA : 1280 1024 (60/75/85Hz)
	WSXGA: 1680 x 1050 (60Hz) WSXGA: 1680 x 1050 (75Hz) D-SUB only
Pixel pitch	0.258 (per one triad) x 0.258
Pixels (H x V)	1680(x3) x 1050
Pixel clock	202 MHz (Max)
Contrast ratio	800: 1 (Typ)
Brightness	300 cd/m2 @6mA (Typ)
Response time (Tr/Tf)	16 ms
Display color	16.7M colors (RGB 8-bit data)
Viewing angle	176 /176
Pc interface	RGB Analog Interface
	Digital interface
Signal connector	D-Sub 15pin
	DVI-D 24pin
Interface frequency	Horizontal Frequency 30KHz -----91KHz
	Vertical Frequency 55Hz -------85Hz
Plug & play	VESA DDC2B, VESA DPMS
Power Input voltage	230V 5 , 50 3 Hz
Total output power	49Watt max.
Weight	Unpacked: 5.4 Kg Packed: 7.3 Kg

All manuals and user guides at all-guides.com

LCD Panel Specification

LCD Panel Model (AU M201EW01)

- Display Type active matrix color TFT LCD
- Resolution 1680 x 1050
- Display Dot 1680(x3) x 1050
- Display Area 433.44mm(H) x 270.90mm(V)
- Pixel Pitch 0.258mm(H) x 0.258mm(V)
- Display Color 16.7M (true)
- Lamp Frequency 50kHz(Max.)
- Lamp Current 6.0 mArms (typ)
- Weight 2950g (typ)

Optical Specifications

The optical characteristics are measured under stable conditions at 25 :

Item	Unit	Conditions	Min.	Typ.	Max.
Viewing Angle	[degree]	Horizontal (Right)	75	88	-
	[degree]	CR = 10 (Left)	75	88	-
	[degree]	Vertical (Up)	75	88	-
	[degree]	CR = 10 (Down)	75	88	-
Contrast ratio		Normal Direction	400	800	
Response Time	[msec]	Rising Time	-	11	25
	[msec]	Falling Time	-	5	15
	[msec]	Rising + Falling	-	16	40
	[msec]	Grey to Grey (average)	-	8	-
Color / Chromaticity Coordinates (CIE)		Red x	0.610	0.640	0.670
		Red y	0.322	0.352	0.382
		Green x	0.258	0.288	0.318
		Green y	0.598	0.628	0.658
		Blue x	0.114	0.144	0.174
		Blue y	0.046	0.076	0.106
Color Coordinates (CIE) White		White x	0.283	0.313	0.343
		White y	0.299	0.329	0.359
White Luminance at CCFL 6.0mA (central point)	[cd/m^2]		240	300	-
Luminance Uniformity	[%]		70	75	-
Crosstalk (in75Hz)	[%]				1.5
Flicker	DB				-20

Supported Timing

VESA MODES						
		Horizontal		Vertical		
Resolution	Total	Nominal Frequency +/- 0.5kHz	Sync Polarity	Nominal Freq. +/- 0.5kHz	Sync Polarity	Nominal Pixel Clock(MHz)
640 X 480@60Hz	800X525	31.469	N	59.940	N	25.175
640 X 480@72Hz	832X520	37.861	N	72.809	N	31.500
640 X 480@75Hz	840X500	37.500	N	75.00	N	31.500
640 X 480@85Hz	832X509	43.269	N	85.008	N	36.000
800 X 600@56Hz	1024X625	31.156	N/P	56.250	N/P	36.000
800 X 600@60Hz	1056X628	37.879	P	60.317	P	40.000
800 X 600@72Hz	1040X666	48.077	P	72.188	P	50.000
800 X 600@75Hz	1056X625	46.875	P	75.000	P	49.500
800 X 600@85Hz	1048X631	53.674	P	85.061	P	56.250
1024X768@60Hz	1344X806	48.363	N	60.004	N	65.000
1024X768@70Hz	1328X806	56.476	N	70.069	N	75.000
1024X768@75Hz	1312X800	60.023	P	75.029	P	78.750
1024X768@85Hz	1376X808	68.677	P	84.997	P	94.5
1280X1024@60Hz	1688X1066	63.981	P	60.020	P	108.000
1280×1024@75Hz	1688X1066	79.976	P	75.025	P	135.000
1280X1024@85Hz	1728X1072	91.146	P	85.02	P	157.5
1680X1050@60Hz	2240X1089	65.29	N	59.95	P	146.25
1680X1050@75Hz (D-SUB only)	2272X1099	82.3	N	74.89	P	187
IBM MODES						
		Horizontal		Vertical		
720X400@70Hz	900X449	31.469	N	70.087	P	28.322
640X350@70Hz	800X449	31.469	P	70.087	N	25.175
1024X768@72Hz	1304X798	57.515	P	72.1	P	75.000
MAC MODES						
640X480@67Hz	864X525	35.000	N	66.667	N	30.240
832X624@75Hz	1152X667	49.725	N	74.551	N	57.2832
1024X768@60Hz	1312X813	48.780	N	60.001	N	64.000
1024X768@75Hz	1328X804	60.241	N	74.927	N	80.000

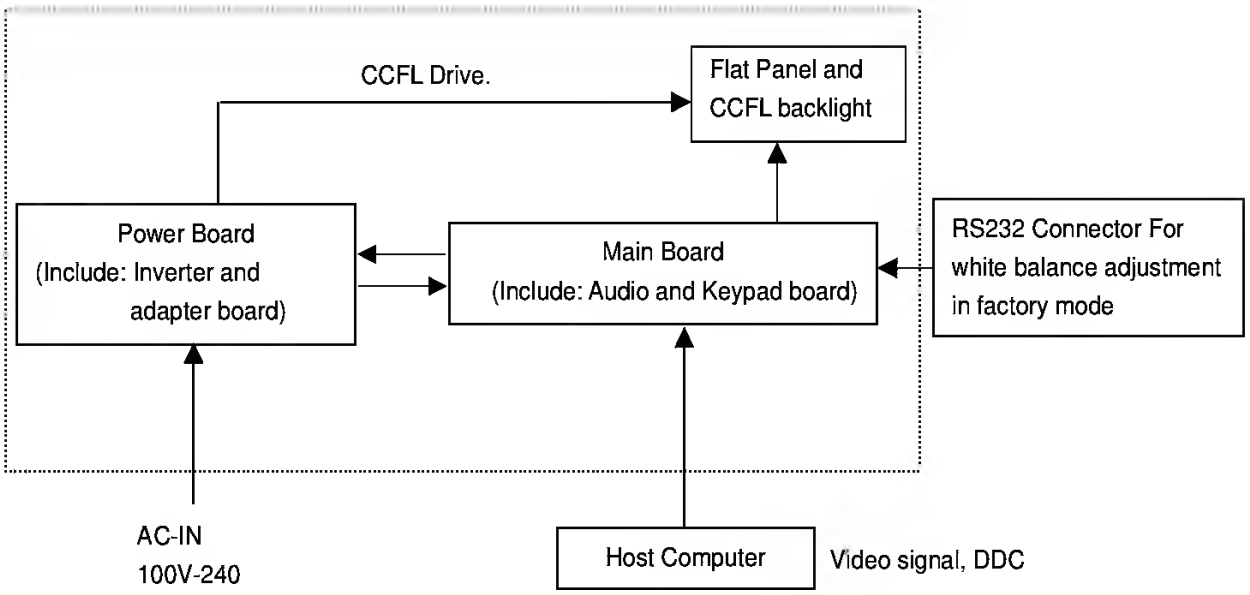
Support Modes

There will be 20 total support modes to accommodate the above mode and other video modes within the frequency range of the monitor.

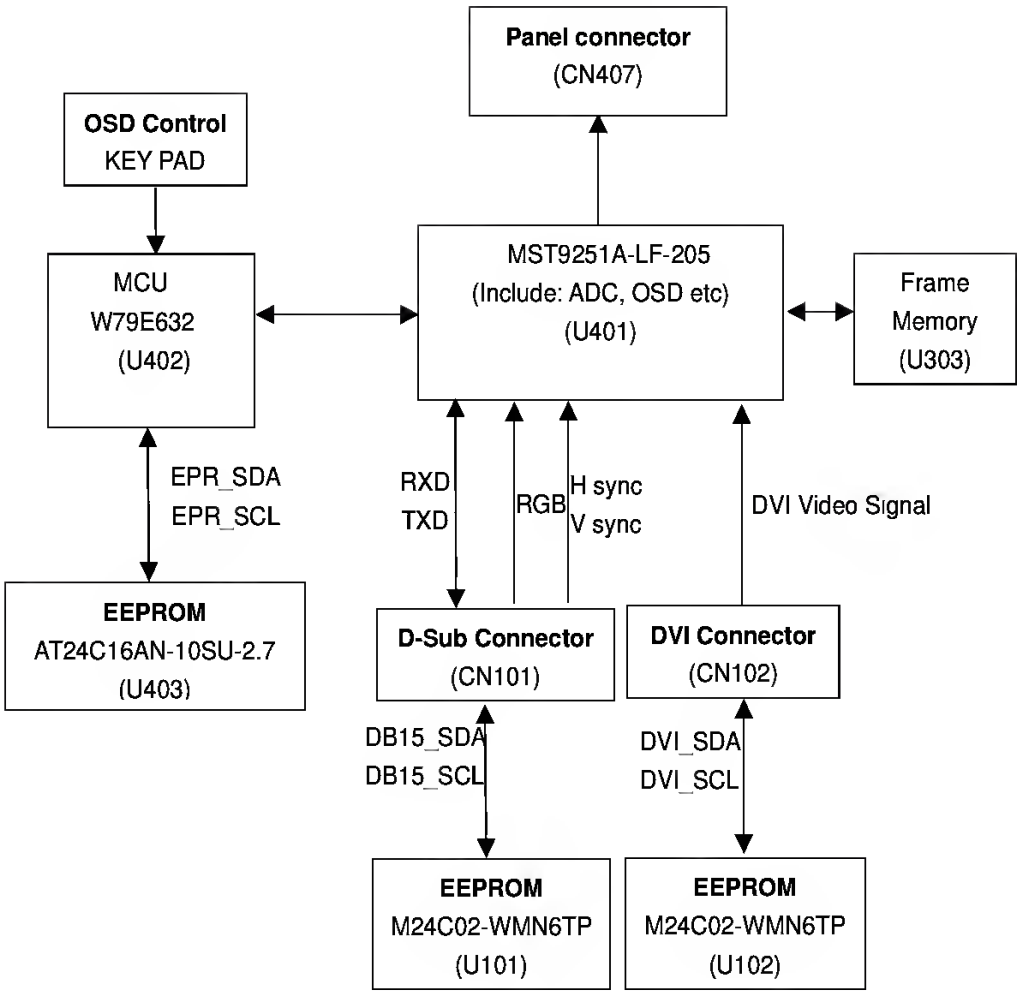
Monitor Block Diagram

The LCD monitor will contain a main board, a power board, which house the flat panel control logic, brightness control logic and DDC.

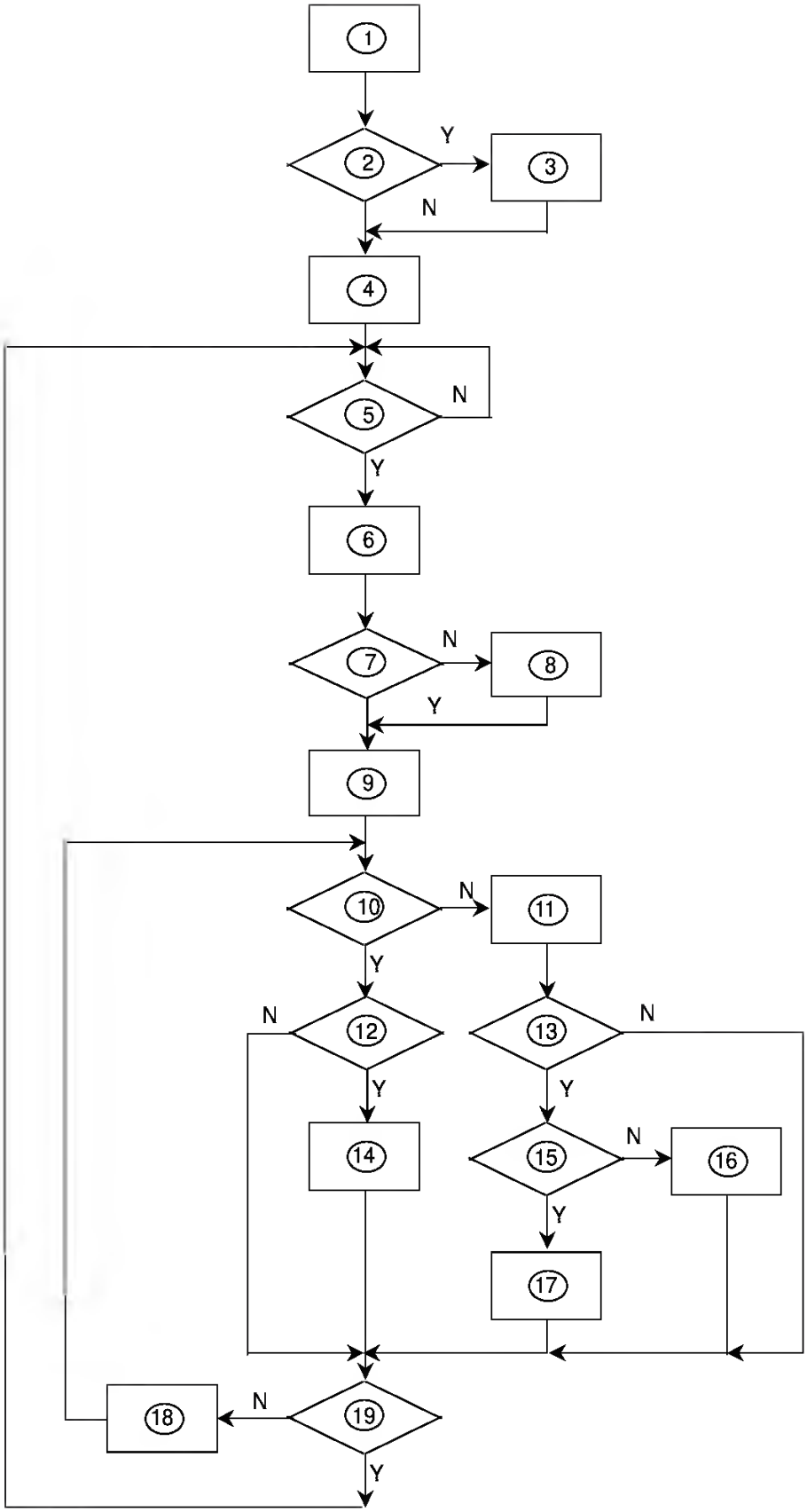
The Inverter board will drive the backlight of panel.



Main Board Diagram



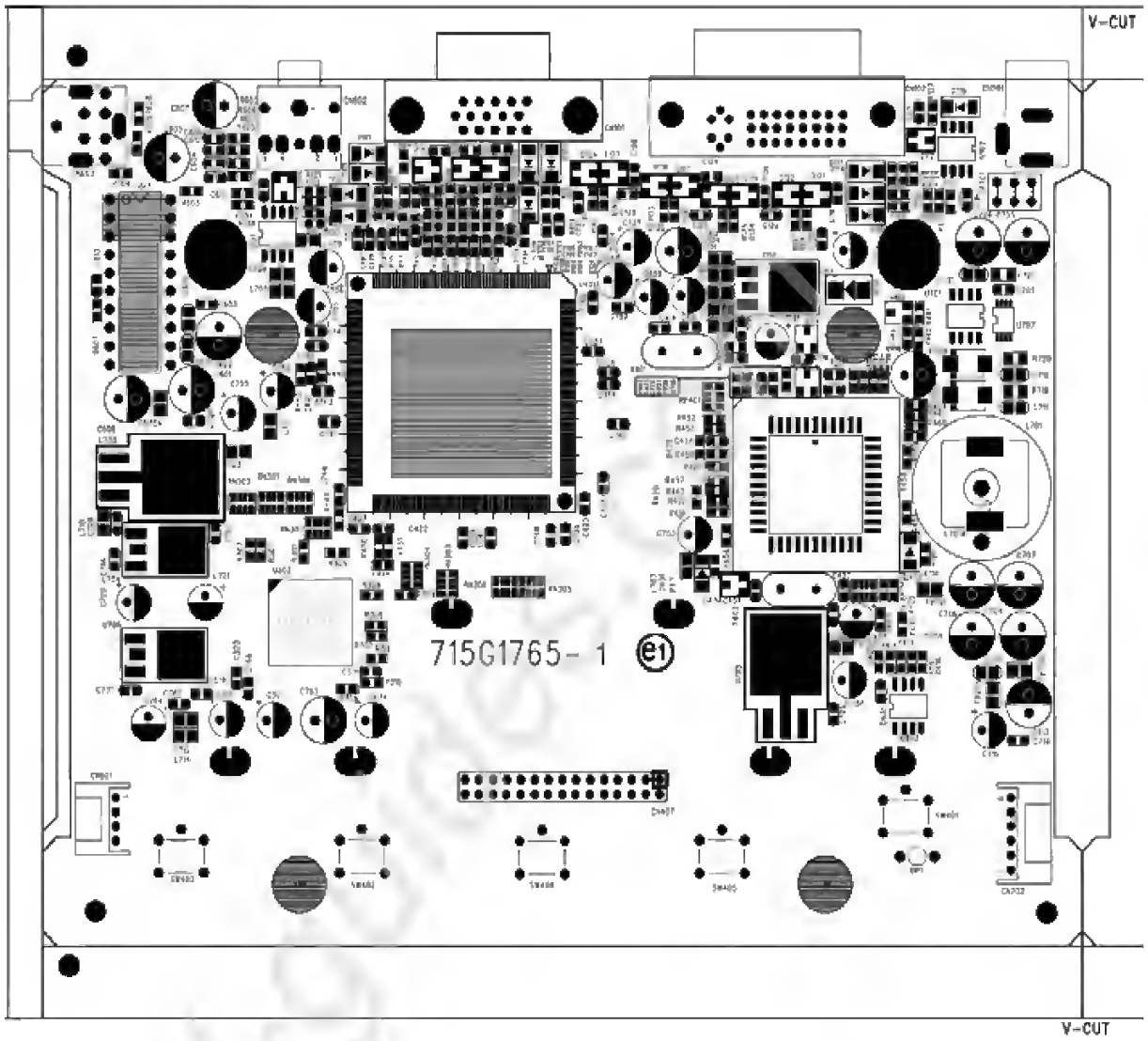
Software Flow Chart



Remark:

1) MCU initializes.
2) Is the EEPROM blank?
3) Program the EEPROM by default values.
4) Get the PWM value of brightness from EEPROM.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEPROM. Turn on the LED and set it to green color. Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappears.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

Main Board Layout



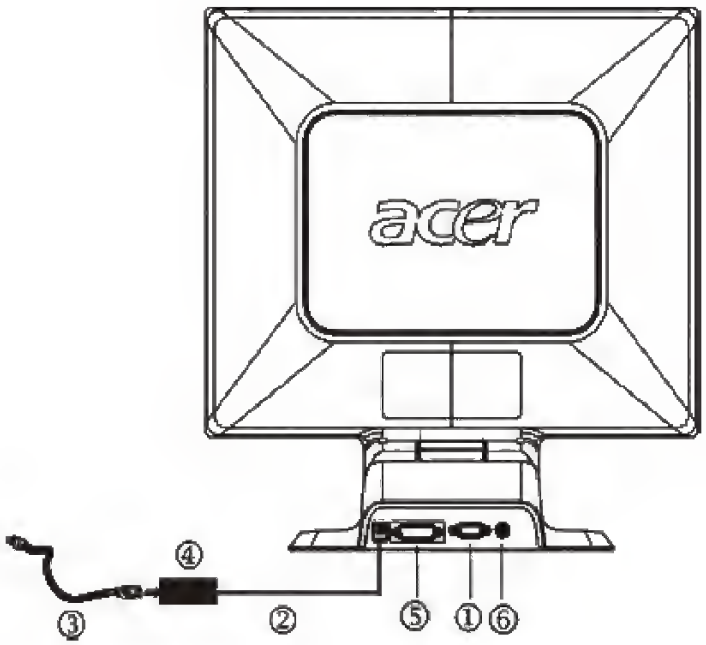
Label	Part No.	Description
CN603	88G 30211K	PHONE JACK 5PIN
CN602	88G 30214K	PHONE JACK 5PIN
CN701	88G 3041CE	DC JACK 3PIN
CN101	88G 35315F H	D-SUB 15PIN
CN102	88G 35424F H	DVI CONNECTOR 24PIN
X401	93G 22 53	CRYSTAL 14.318MHzHC-49U
X402	93G 22 55 H	20MHZ/20PF/49US
U401	56G 562120	MST9251A-LF-205
U402	56G1125170AC1	W79E632 BY WINBOND

Front Bezel

External Controls

Item	Description	Item	Description
1.	>/ Volume	4.	MENU/ENTER
2.	</ Volume	5.	Auto Adjust Key/Exit
3.	Power Key/Power Indicator		

Rear Bezel



Item	Description	Item	Description
1.	D-SUB Cable	4.	External Adapter
2.	DC-Jack Power Cable	5.	DVI Cable
3.	AC Power Cord	6.	Audio Cable

Operating Instructions

Chapter 2

Press the power button to turn the monitor on or off. The other control buttons are located at front panel of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor position. The power indicator will light up.

External Controls

Item	Description	Item	Description
1.	>/ Volume	4.	MENU/ENTER
2.	</ Volume	5.	Auto Adjust Key/Exit
3.	LED/Power Key		

Front Panel Control

- **Power Button:**

Press this button to turn the monitor ON or OFF, and display the monitor's state.

- **Menu / Enter:**

  Activate OSD menu when OSD is OFF or activate/de-activate adjustment function when OSD is ON or Exit OSD menu when in Volume Adjust OSD status.

- **<Volume:**

  Activates the volume control when the OSD is OFF or navigates through adjustment icons when OSD is ON or adjust a function when function is activated.

- **>/Volume:**

  Activates the volume control when the OSD is OFF or navigates through adjustment icons when OSD is ON or adjusts a function when function is activated.

- **Auto Adjust button / Exit:**

  1. When OSD menu is in active status, this button will act as EXIT-KEY (EXIT OSD menu).
  2. When OSD menu is in off status, press this button for 2 seconds to activate the Auto Adjustment function.
     The Auto Adjustment function is used to set the HPos, VPos, Clock and Focus.

- **Power Indicator:**

  Blue — Power On mode.
  Orange —Power Off mode

NOTES

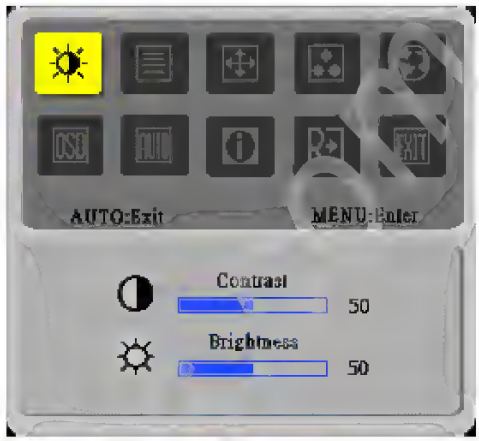
Notes

- Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.
- Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.
- For maximum protection, repackage your monitor as it was originally packed at the factory.
- To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.

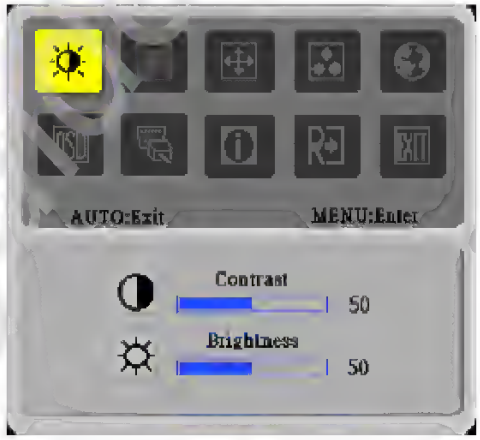
Adjusting the Picture

a. How to Adjust a Setting

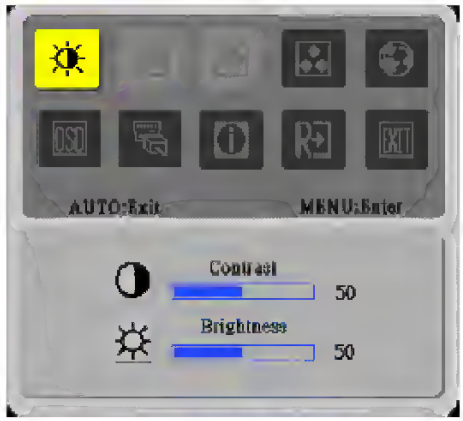
1. Press the MENU-button to activate the OSD window.
2. Press <or >to select the desired function.
3. Press the MENU-button to select the function that you want to adjust.
4. Press < or >to change the settings of the current function.
5. To exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-4.



Analog Input only model



Dual-Input Model, Analog Signal Input



Dual-Input Model, Digital Signal Input

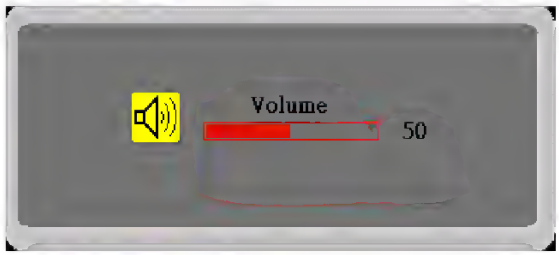
b. The Description For Control Function

Main Menu Icon	Sub Menu Icon	Sub Menu Item	Description
		Contrast	Adjusts the contrast between the foreground and background of the screen image.
		Brightness	Adjusts the background brightness of the screen image.
		Focus	Adjusts picture Focus (available in Analog mode only).
		Clock	Adjusts picture Clock (available in Analog mode only).
		H. Position	Adjust picture Focus (available in Analog mode only).
		V. Position	Adjust picture Clock (available in Analog mode only).
	N/A	Warm	Set the color temperature to warm white.
	N/A	Cool	Set the color temperature to cool white.
		User /Red	Adjusts Red/Green/Blue intensity.
		User/Green	
		User/Blue	

	N/A	language	Multi-language selection.
		H. Position	Adjust the horizontal position of the OSD.
		V. Position	Adjust the vertical position of the OSD.
		OSD Timeout	Adjust the OSD timeout.
(only Analog-input Model)	N/A	Auto Config	Auto Adjust the H/V Position, Focus and Clock of picture.
(only Dual-Input Model)	N/A	Analog	Select input signal from analog (D-Sub)
	N/A	Digital	Select input signal from digital (DVI)
	N/A	Information	Show the resolution, H/V frequency and input port of current iput timing.
	N/A	Reset	Clear each old status of Auto-configuration and set the color temperature to Cool.
	N/A	Exit	Save user adjustment and OSD disappear.

Hot-Key Menu

a. Outline



b. The Description For Hot-Key Function

Item	Operation	Icon	Description
Volume	When the OSD is closed, press Left or Right button will be Volume Hot-Key Function		Volume of Audio adjustment. The Audio will be Mute when volume=0

OSD Message

a. Outline

b. The Description For OSD Message

Item	Description
Auto Config Please Wait	When Analog signal input, if User Press Hot-Key “Auto”, will show this message, and the monitor do the auto config function.
Input Not Supported	When the Hsync Frequency, Vsync Frequency or Resolution is out of the monitor support range, will show this message. This message will be flying.
Cable Not Connected	Analog-Only Model: When the video cable is not connected, will show this message. This message will be flying.
No Signal	Analog-Only Model: When the video cable is connected, but there is no active signal input, will show this message, then enter power saving.

Logo

When the monitor is power on, the LOGO will be showed in the center, and disappear slowly.

How To Optimize The DOS-Mode

Plug And Play

Plug & Play DDC2B Feature

This monitor is equipped with VESA DDC2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities.

The DDC2B is a bi-directional data channel based on the I²C protocol. The host can request EDID information over the DDC2B channel.

This monitor will appear to be non-functional if there is no video input signal. In order for this monitor to operate properly, there must be a video input signal.

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and/or the United States Environmental Protection Agency (EPA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signals this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. Pressing a key on the keyboard, or clicking the mouse restores the display.

Using The Right Power Cord

The accessory power cord for the Northern American region is the wallet plug with NEMA 5-15 style and is UL listed and CSA labeled. The voltage rating for the power cord shall be 125 volts AC.

Supplied with units intended for connection to power outlet of personal computer: Please use a cord set consisting of a minimum No. 18 AWG, type SJT or SVT three conductors flexible cord. One end terminates with a grounding type attachment plug, rated 10A, 250V, and CEE-22 male configuration. The other end terminates with a molded-on type connector body, rated 10A, 250V, having standard CEE-22 female configuration.

Please note that power supply cord needs to use VDE 0602, 0625, 0821 approval power cord in European counties.

This chapter contains step-by-step procedures on how to assemble the monitor for maintenance.

Disassembly Procedure

The back view

1. Remove two screws. (Fig 1)
2. Remove the hinge cover. (Fig 2)
3. Remove the one screw. (Fig 3)

Fig 1

Fig 2

Fig 3

4. Firstly, find out the two hooks position. (Fig 4)
5. Then, pry the rear cover up as arrowhead direction. (Fig 5)
6. Remove the six screws. (Fig 6)

Fig 4

Fig 5

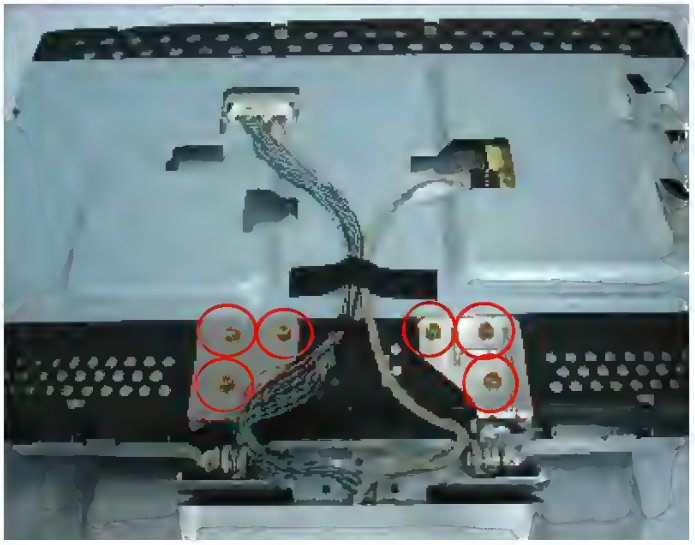


Fig 6

7. Disconnect the wire harnesses of main board and panel, main board and power board. (Fig 7)
8. Remove four screws. (Fig 8)
9. Pry the main frame on the left to remove bezel. (Fig 9.1)
   Pry the main frame on the right to remove bezel. (Fig 9.2)

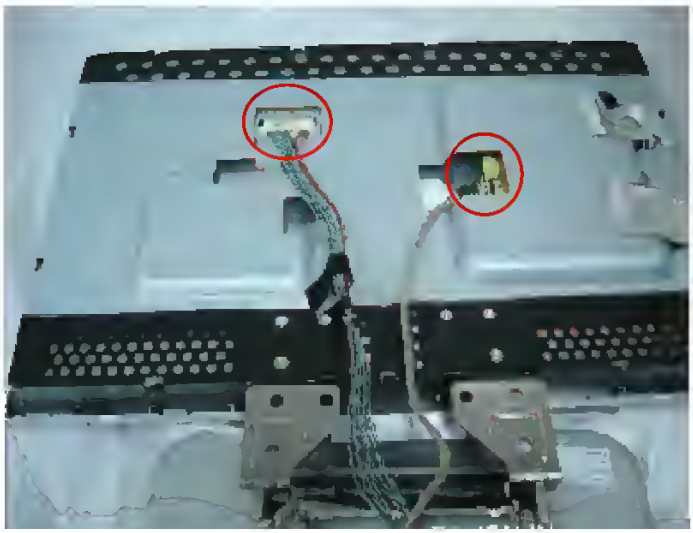


Fig 7

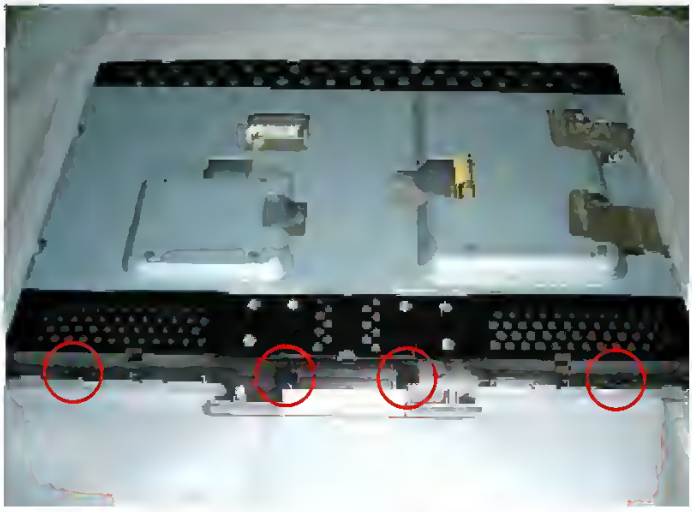


Fig 8

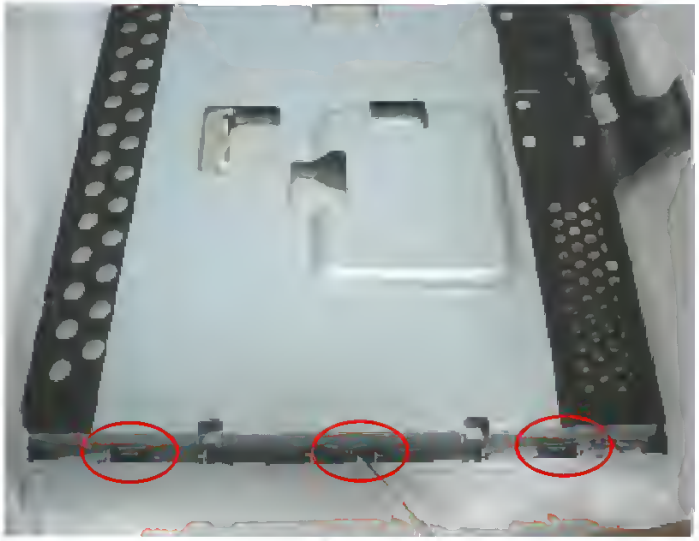


Fig 9.1

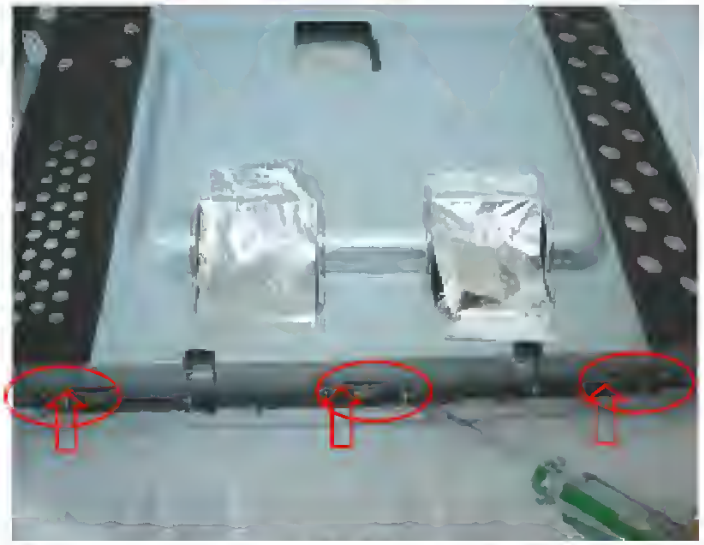


Fig 9.2

10. Remove the screws for frame on the left. (Fig 10.1)
    Remove the screws for frame on the right. (Fig 10.2)

Fig 10.1

Fig 10.2

11. Disconnect the wire harness for power board and lamps. (Fig 11)
12. Remove the four screws to remove the main board. (Fig 12)
13. Remove the eight screws to remove BKT base. (Fig 13)

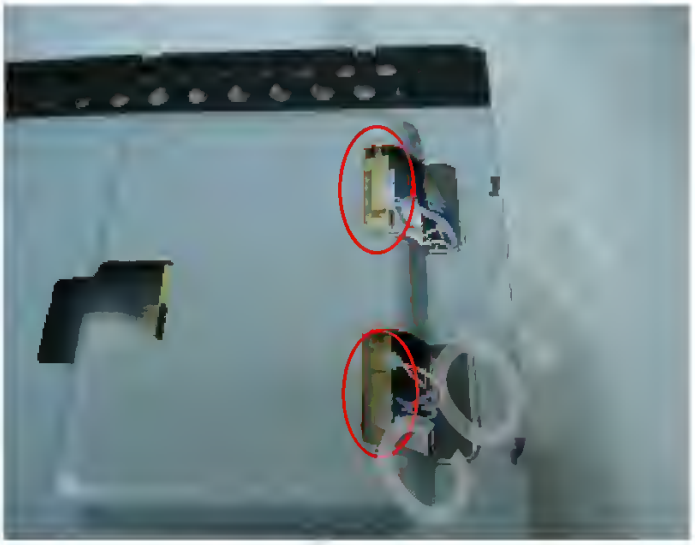


Fig 11

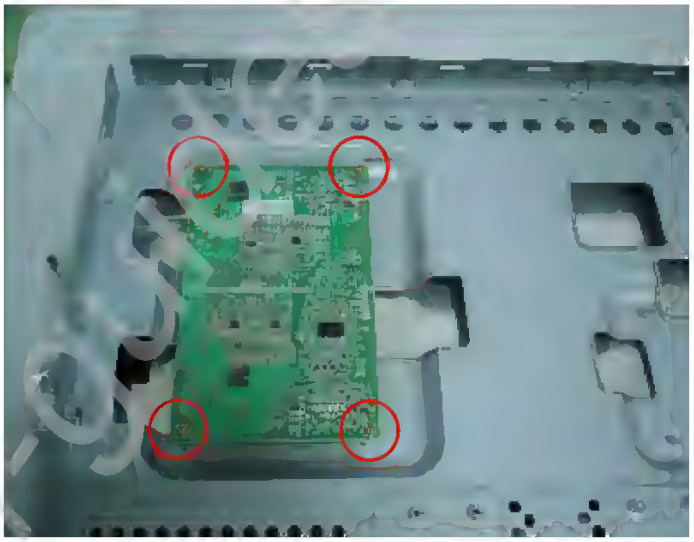


Fig 12

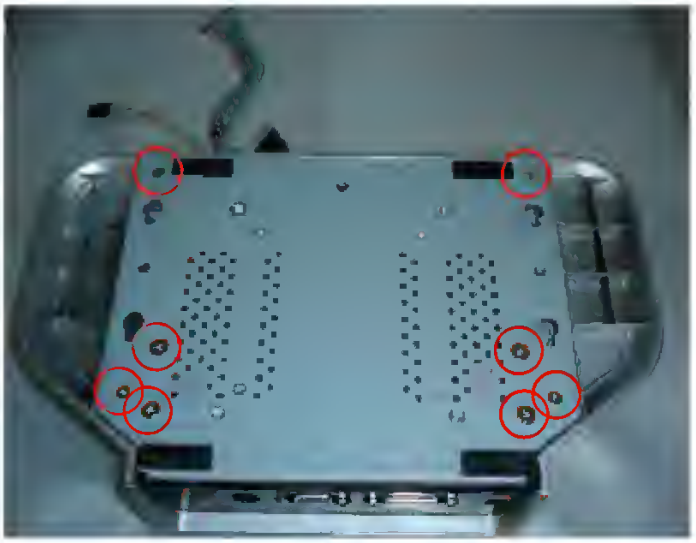


Fig 13

14. Remove the two screws to loose the copper manganese wire. (Fig 14)
15. Remove the four screws and disconnect the wire harness. (Fig 15)
16. Remove the four screws. (Fig 16)

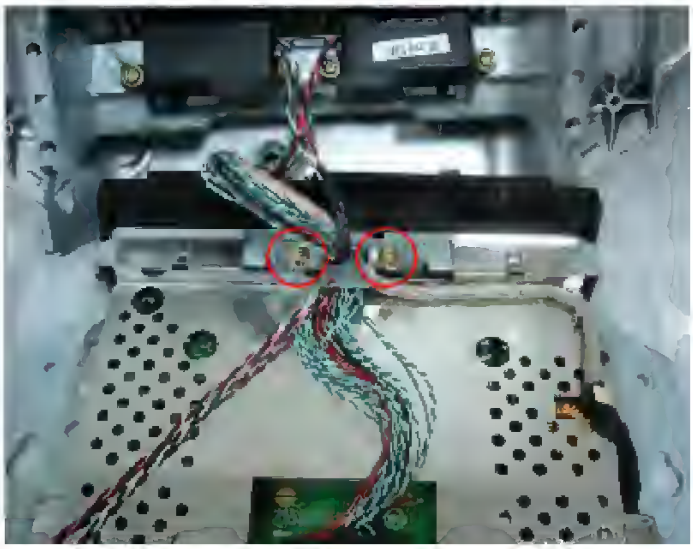


Fig 14

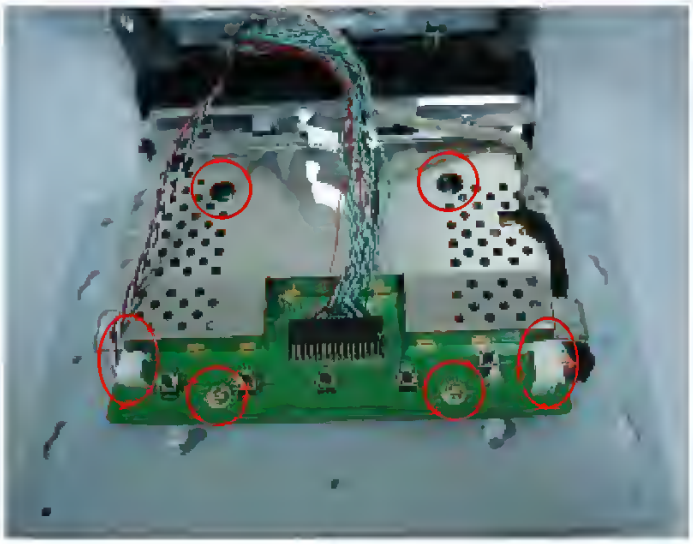


Fig 15

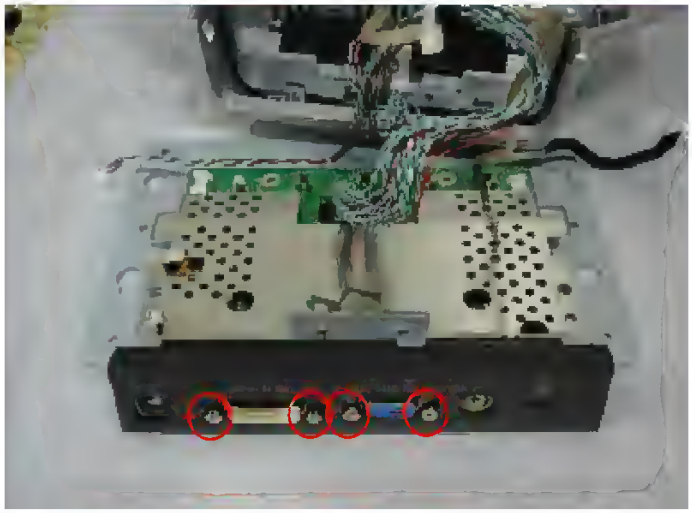


Fig 16

17. Turn the six clips anticlockwise to remove the shielding. (Fig 17)
18. Disconnect the wire harness of main board and panel. (Fig 18) The end!!

Fig 17

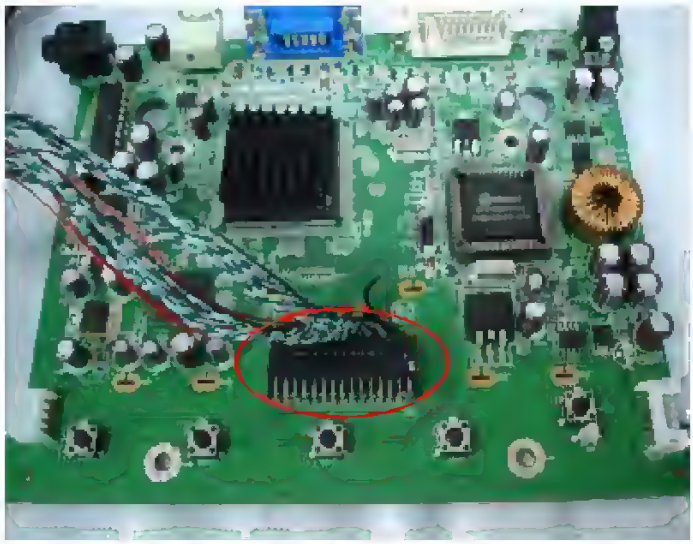
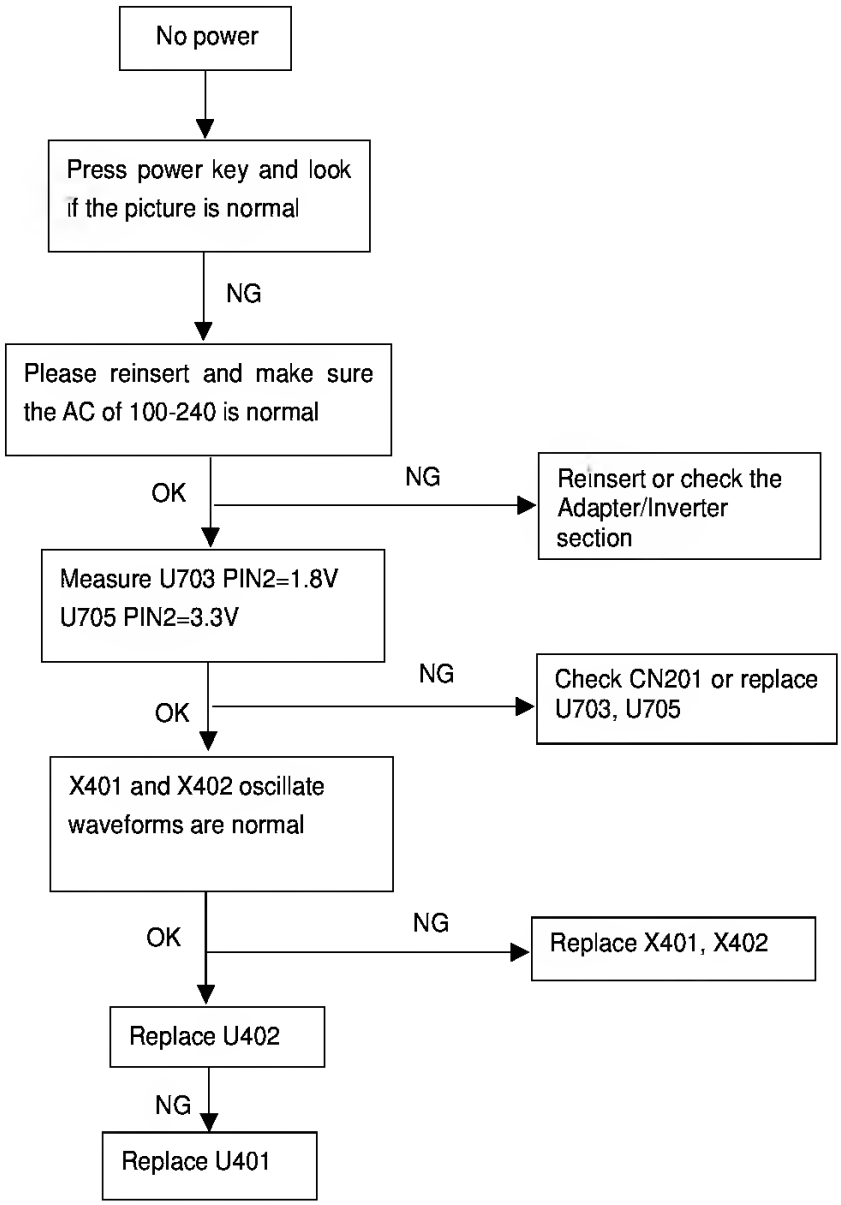


Fig 18

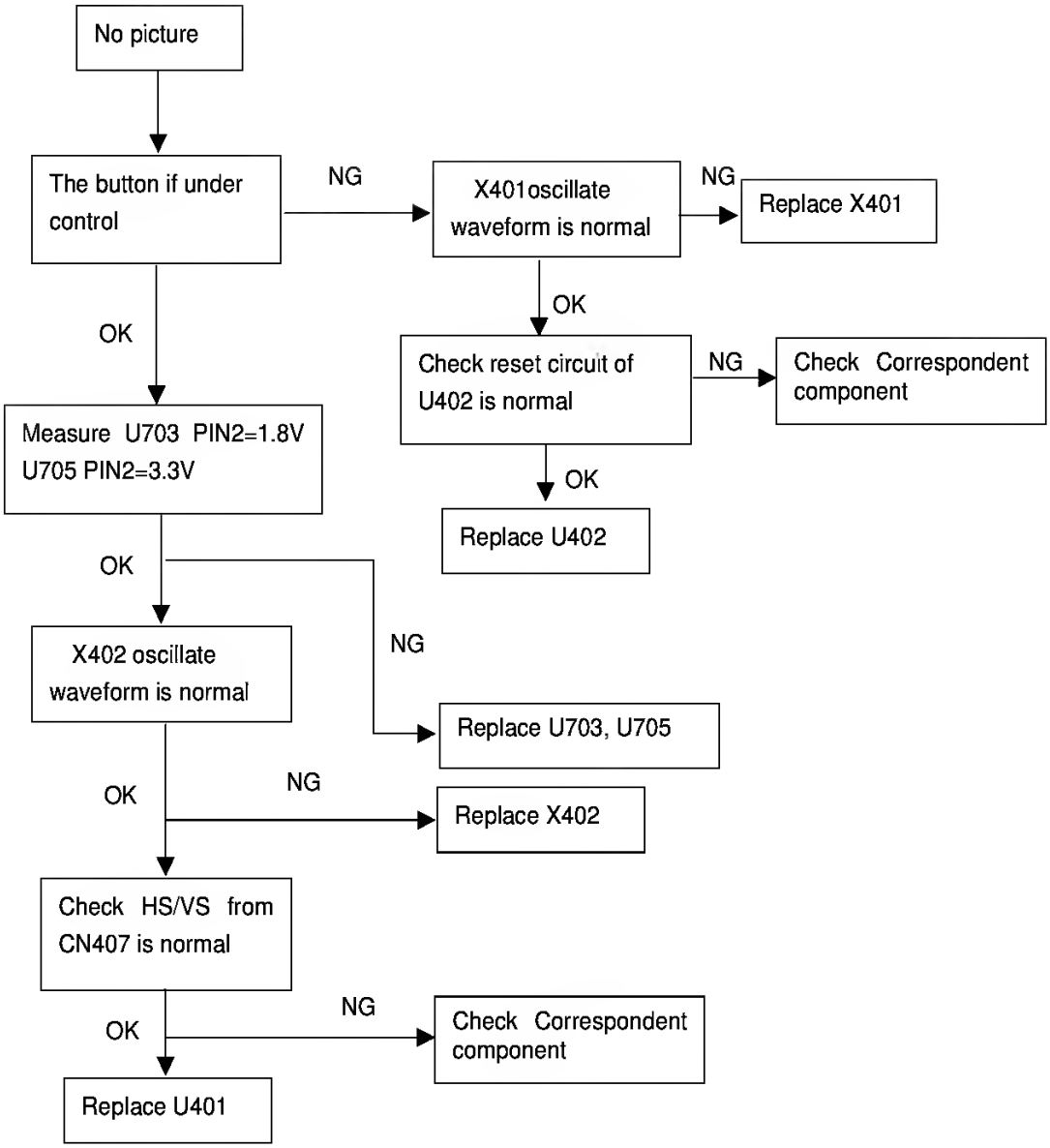
This chapter provides troubleshooting information for the AL2051W:

1. Main board

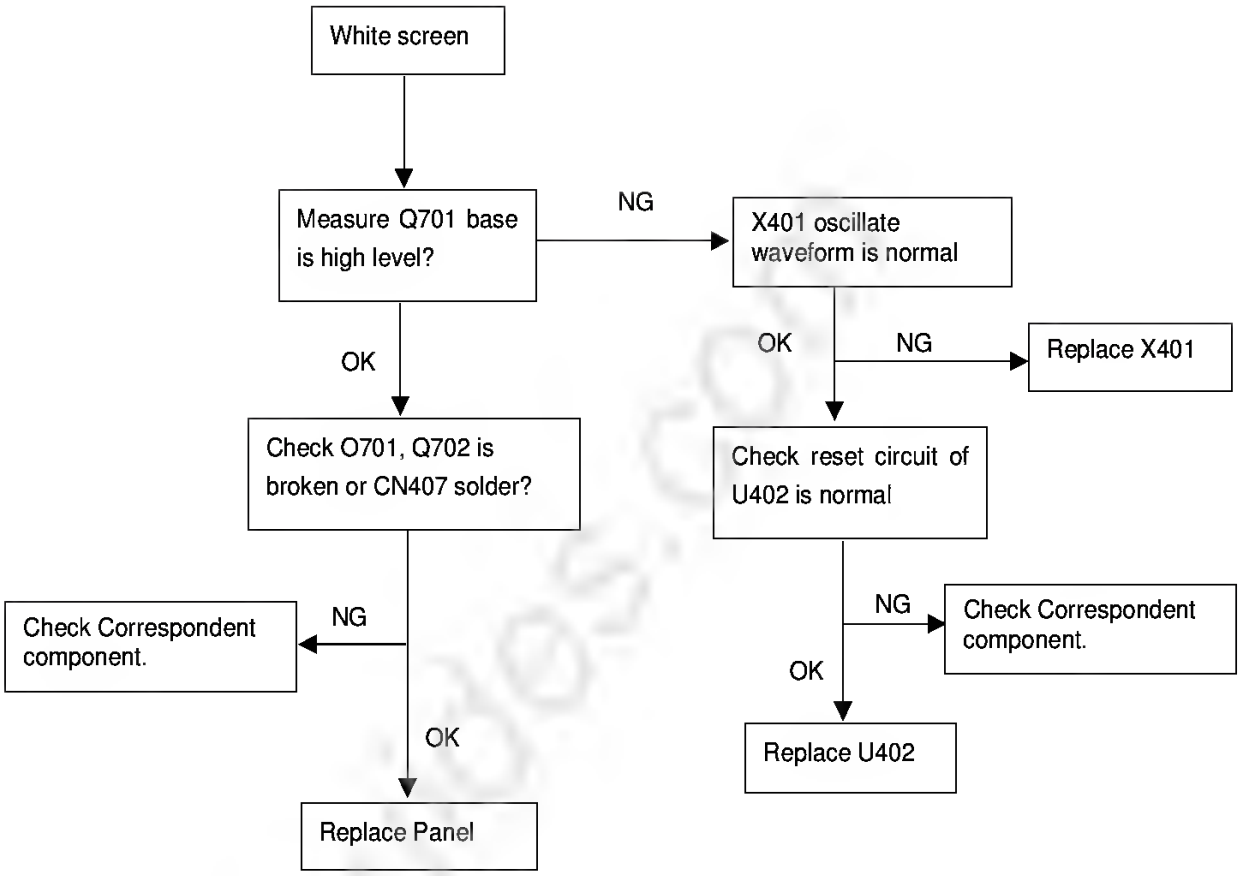
No power



No picture (LED orange)



White screen

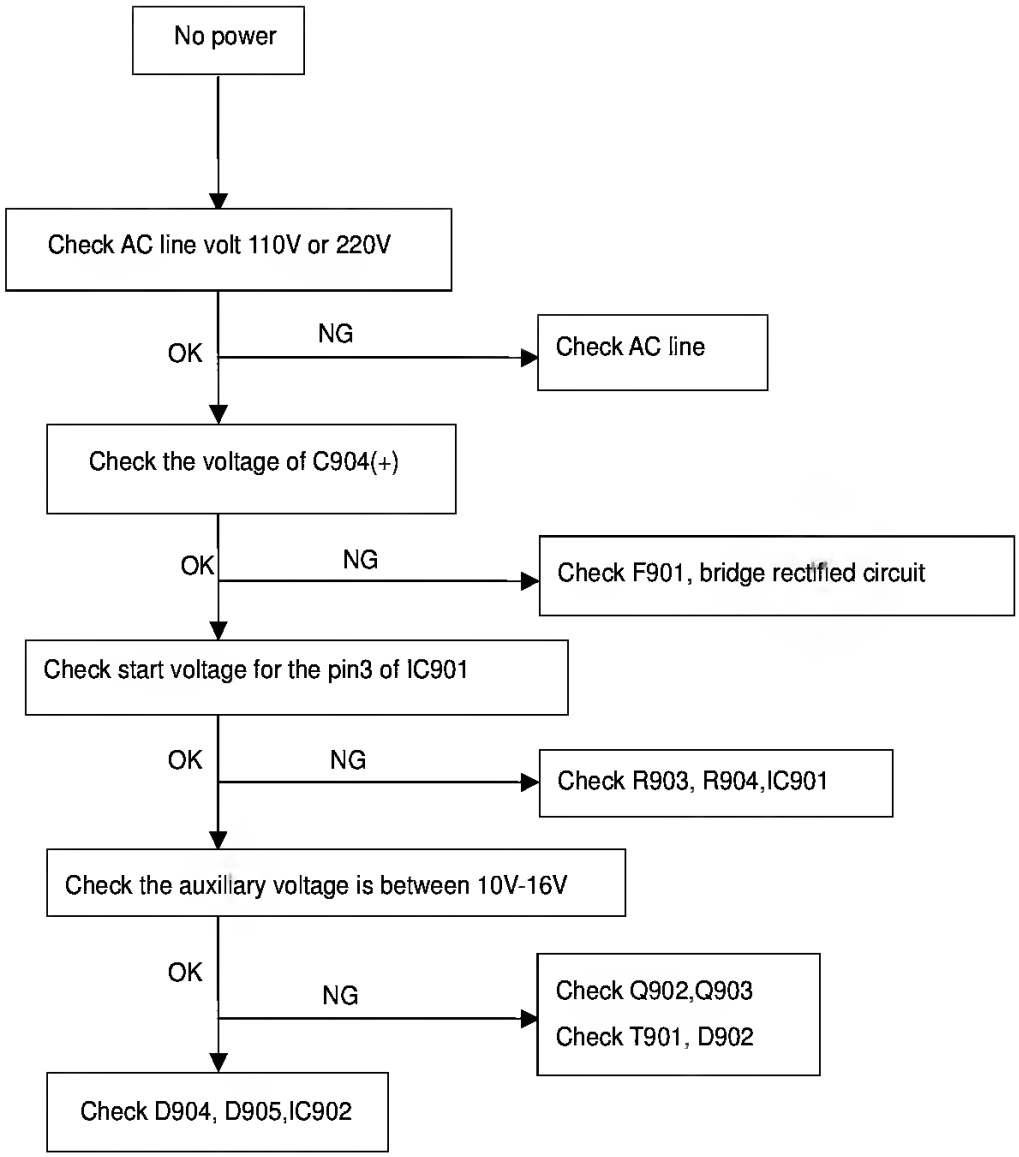


Note: 1. If Replace "MAIN-BOARD", Please re-do "DDC-content" programmed & "WHITE-Balance".

2. If Replace " PWPC" only, Please re-do " WHITE-Balance"

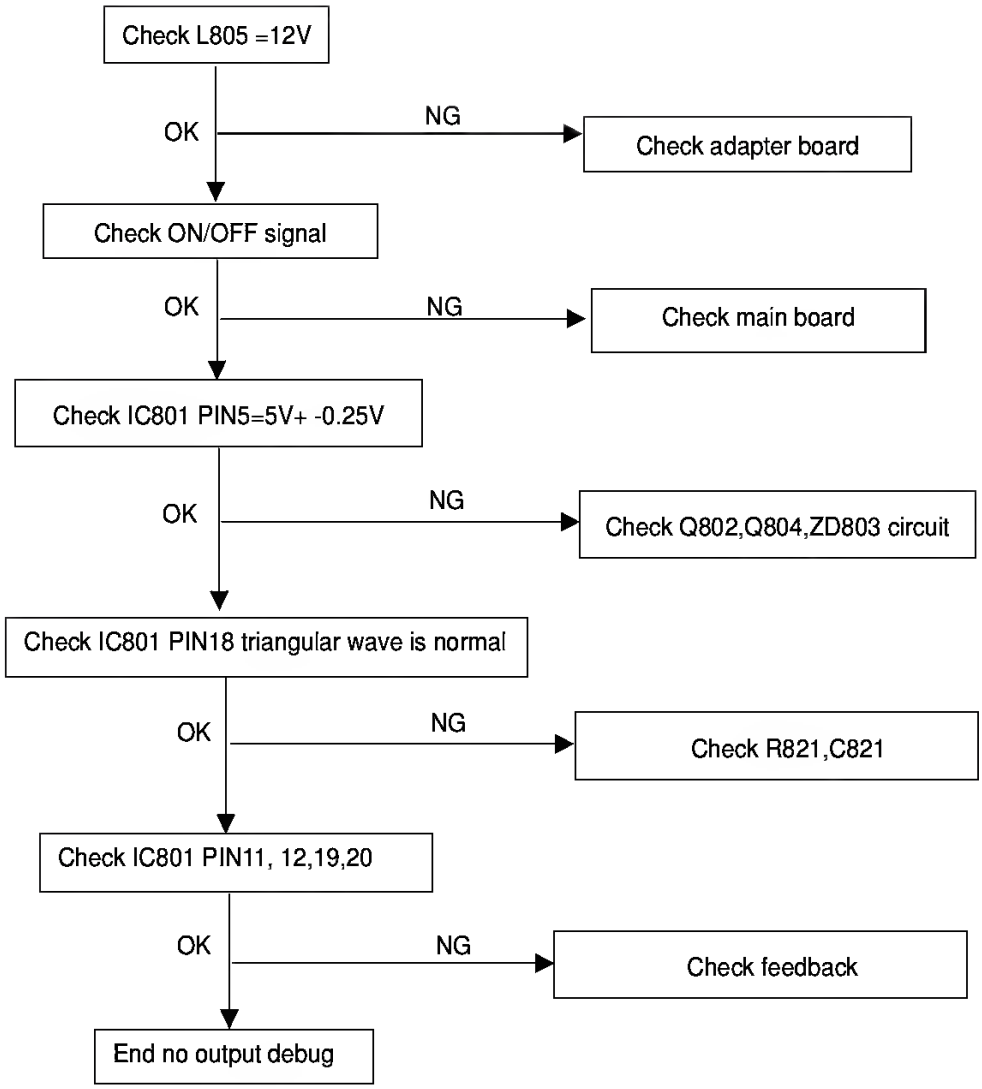
2. Power Board

No power

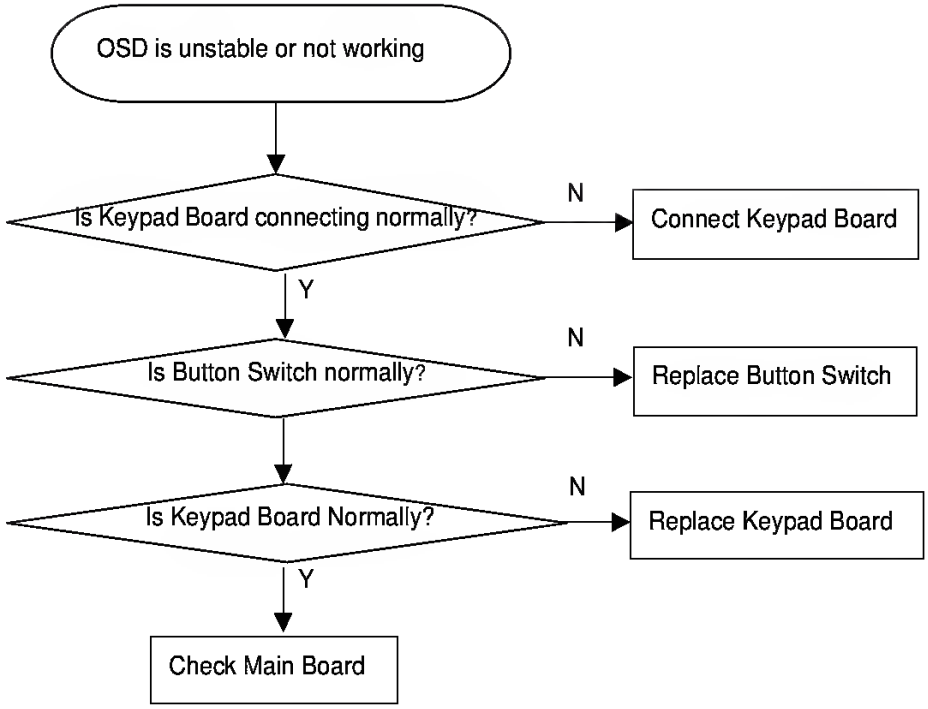


3. Inverter Board

No backlight



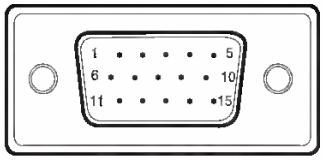
Keypad Board



Connector Information

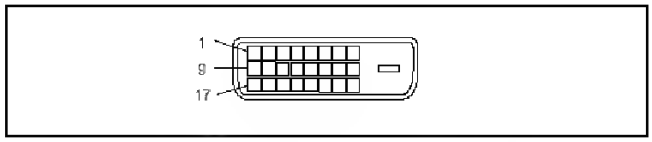
Chapter 5

The following figure shows the connector locations on the monitor:



15 – Pin Color Display Signal Cable (D-sub)

Pin No.	Description	Pin No.	Description
1.	Red	9.	+5V
2.	Green	10.	Logic Ground
3.	Blue	11.	Monitor Ground
4.	Monitor Ground	12.	DDC-Serial Data
5.	DDC-Return	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC-Serial Clock
8.	B-Ground		



24 – Pin Color Display Signal Cable (DVI)

Pin No.	Description	Pin No.	Description
1.	TMDS Data2-	13.	TMDS Data3+
2.	TMDS Data2+	14.	+5V Power
3.	TMDS Data 2/4 Shield	15.	Ground
4.	TMDS Data4-	16.	Hot Plug Detect
5.	TMDS Data4+	17.	TMDS Data0-
6.	DDC Clock	18.	TMDS Data0+
7.	DDC Data	19.	TMDS Data 0/5 Shield
8.	Analogue Vertical Sync	20.	TMDS Data5-
9.	TMDS Data1-	21.	TMDS Data5+
10.	TMDS Data1+	22.	DDC Clock Shield
11.	TMDS Data 1/3 Shield	23.	DDC Clock+
12.	TMDS Data3-	24.	DDC Clock-

FRU (Field Replaceable Unit) List

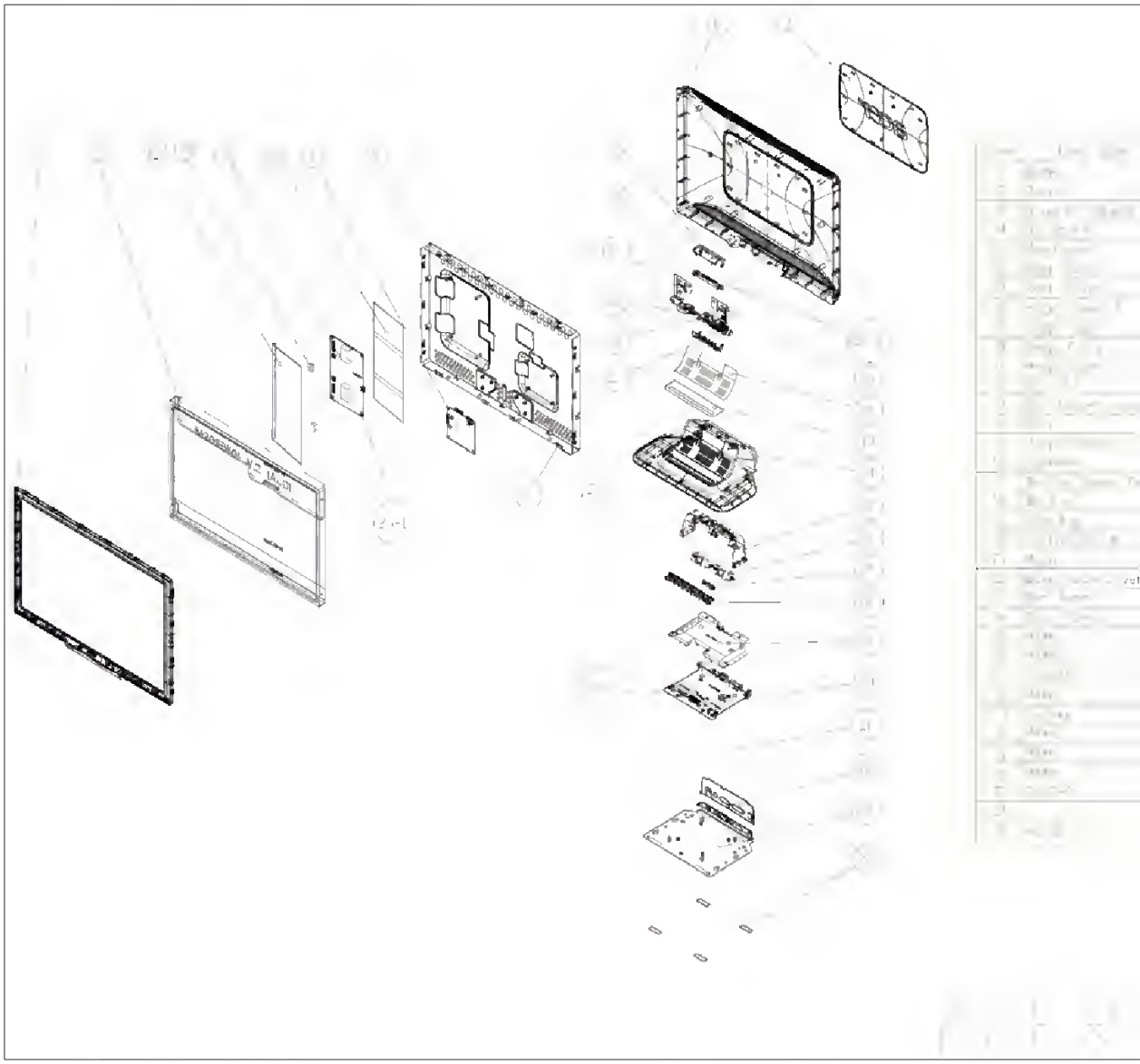
Chapter 6

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of AL2051W.Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE: Please note WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel (http://aicsl.acer.com.tw/spl/). For whatever reasons a part number change is made, it will not be noted in the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

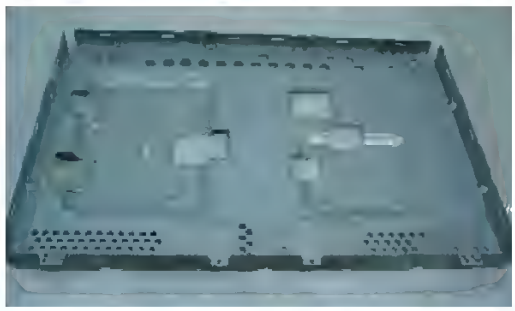
NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

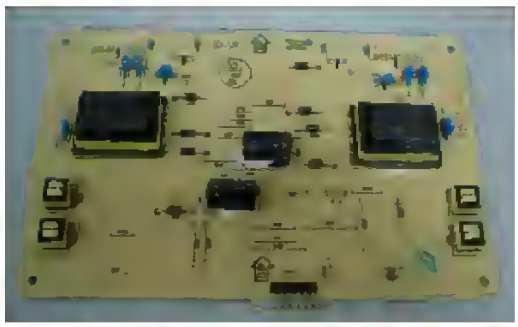
Exploded Diagram (Model: AL2051W)

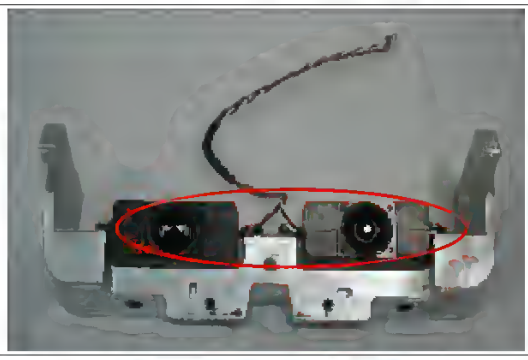
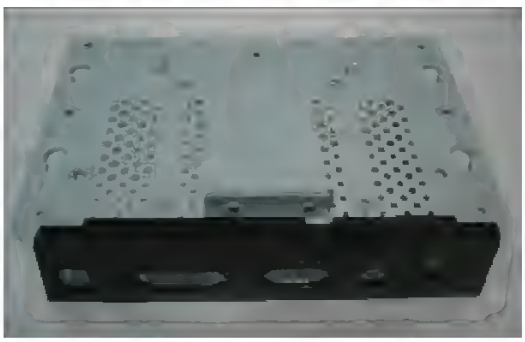
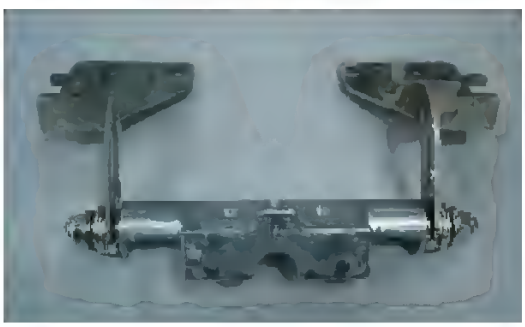


Part List

Above picture show the description of the following component.

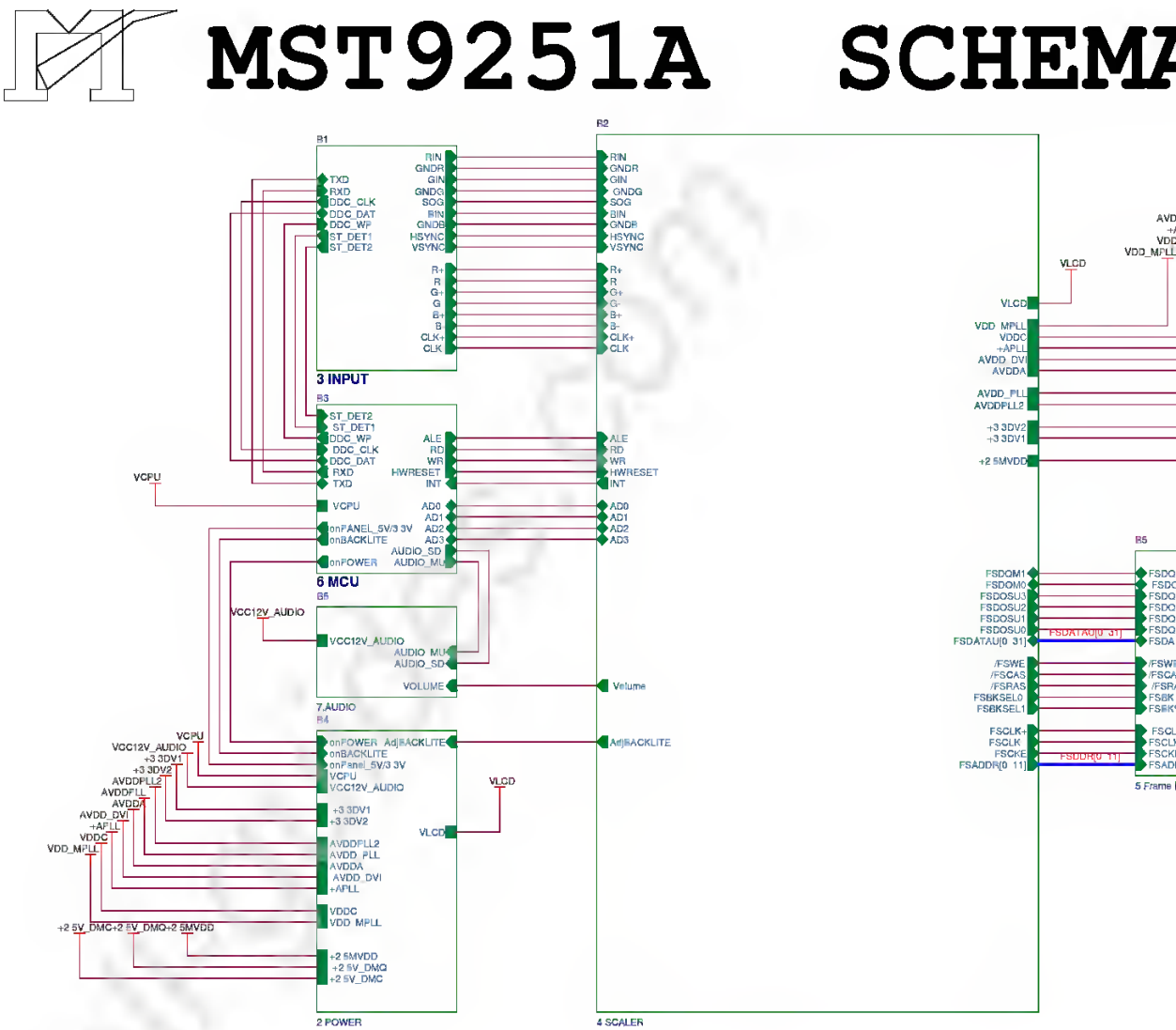
Item	Picture	Description	Part No.
1		HINGE COVER-F	33G4967 QW L
		HINGE COVER-B	33G4968 QT L
2		BEZEL	34G1782AQW B
3		BACK COVER	34G1784 QU B
4		MAIN FRAME	15G8290 1

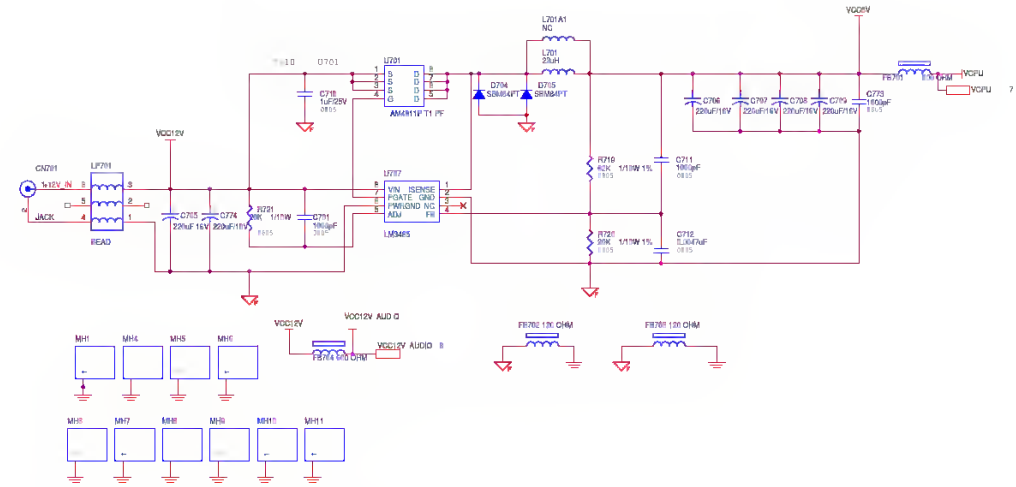
5		SHIELDING	85G 732 1
6		PANEL	750GLUA1W1211N
7		MAIN BOARD	AICA90KAUAEP
8		POWER BOARD	ADPC1260AXP
9		INPC BOARD	INPC2062AUA1P

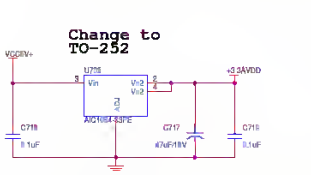
10		SPEAKERS	78G 322 3B
11		BASE	34G1785 QW B
12		BASE BACK COVER	33G4965AQT 1L
13		HINGE HOLDER	20G 041 1

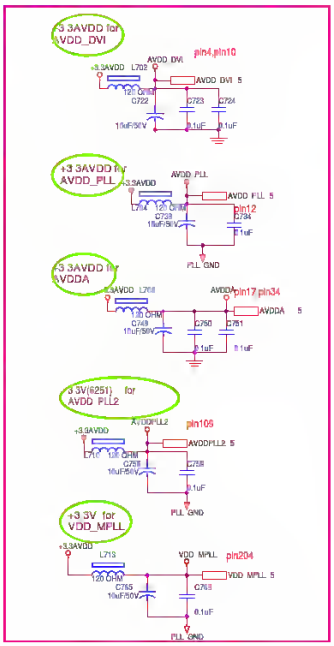
Schematic Diagram

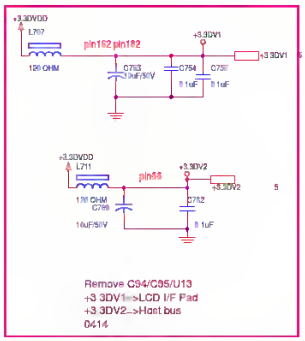
Main Board

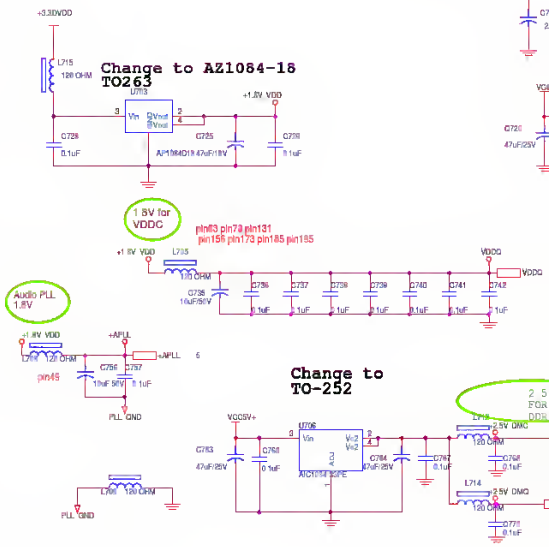


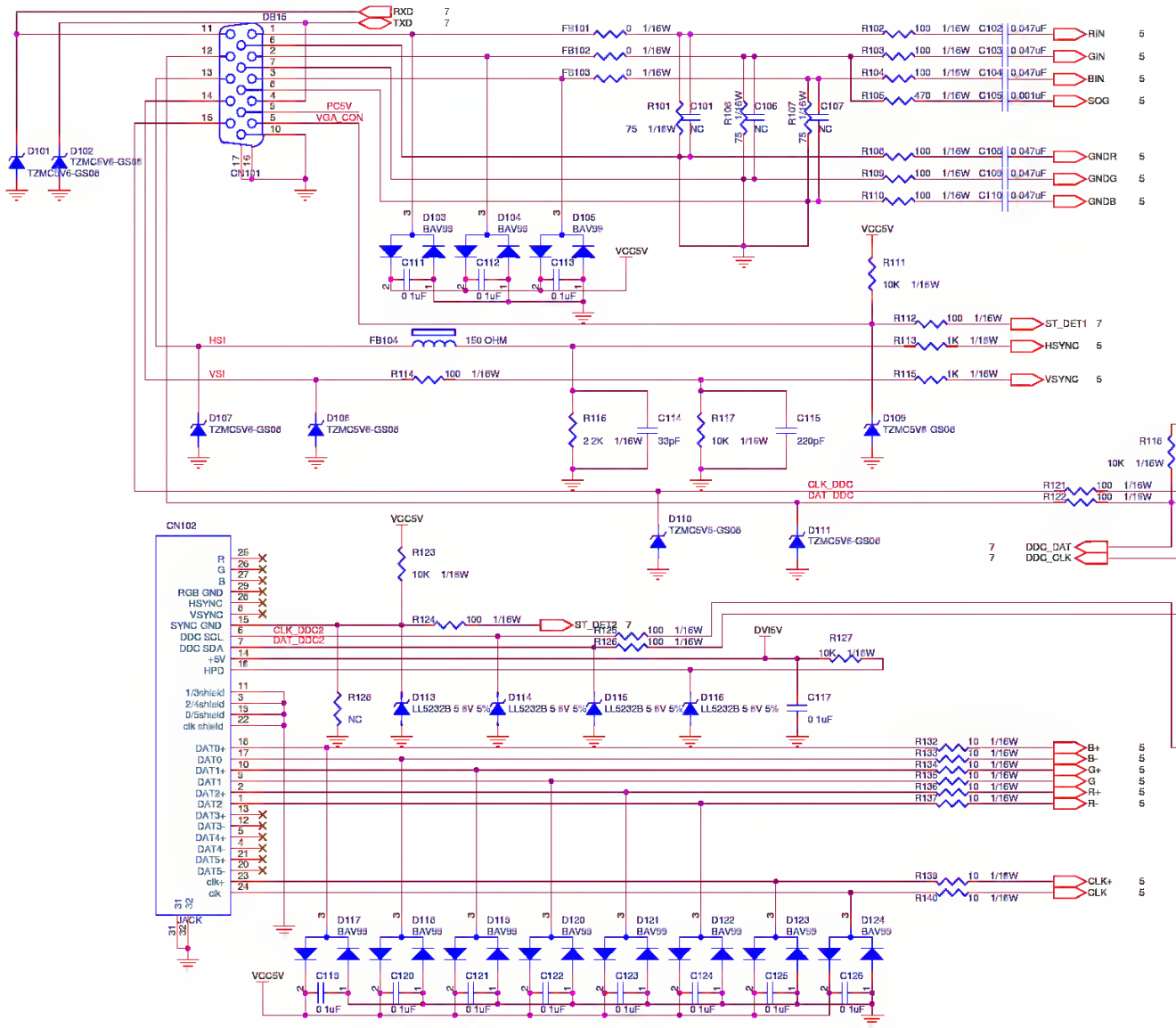


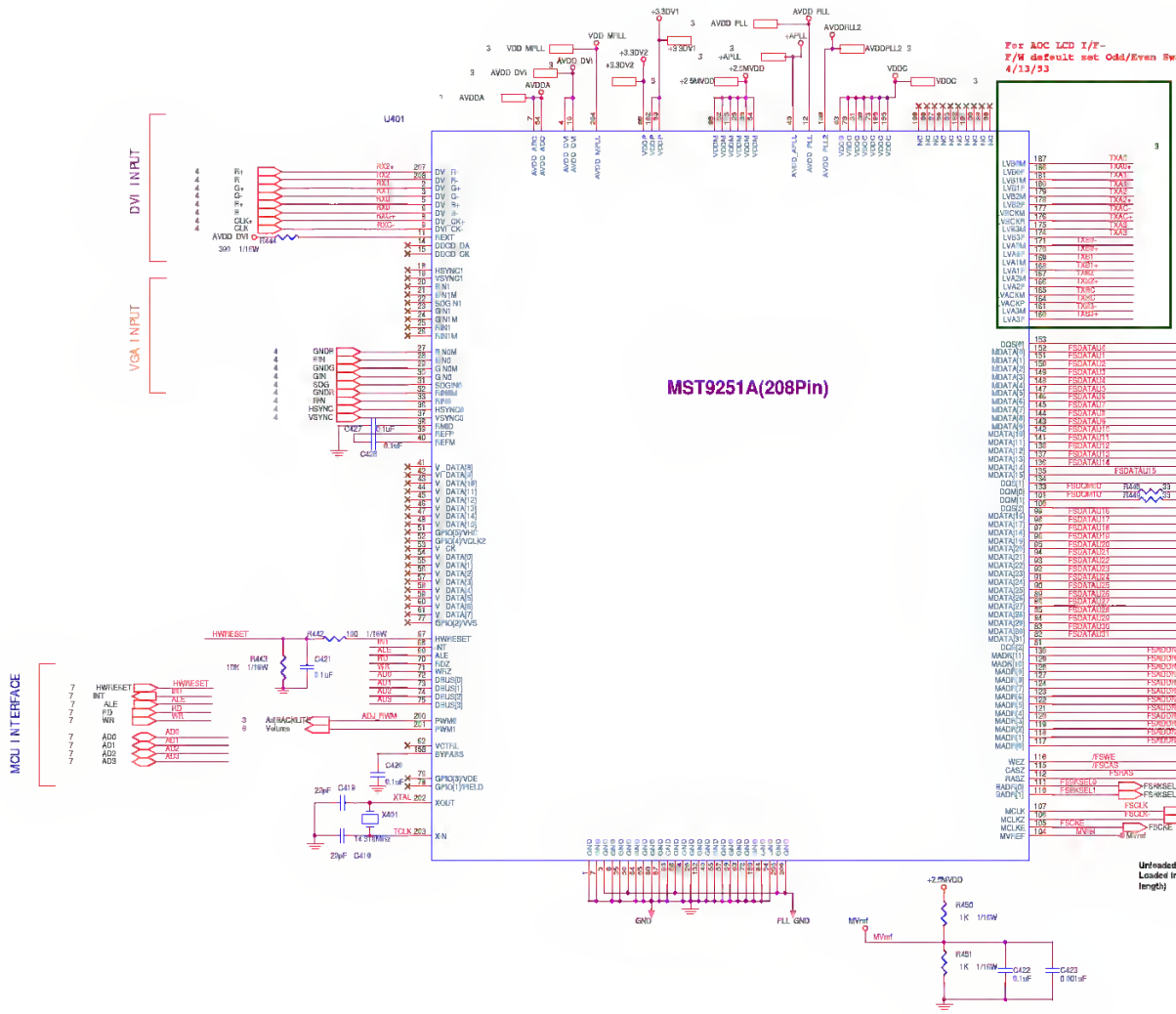

Change to
TO-252
TO-263

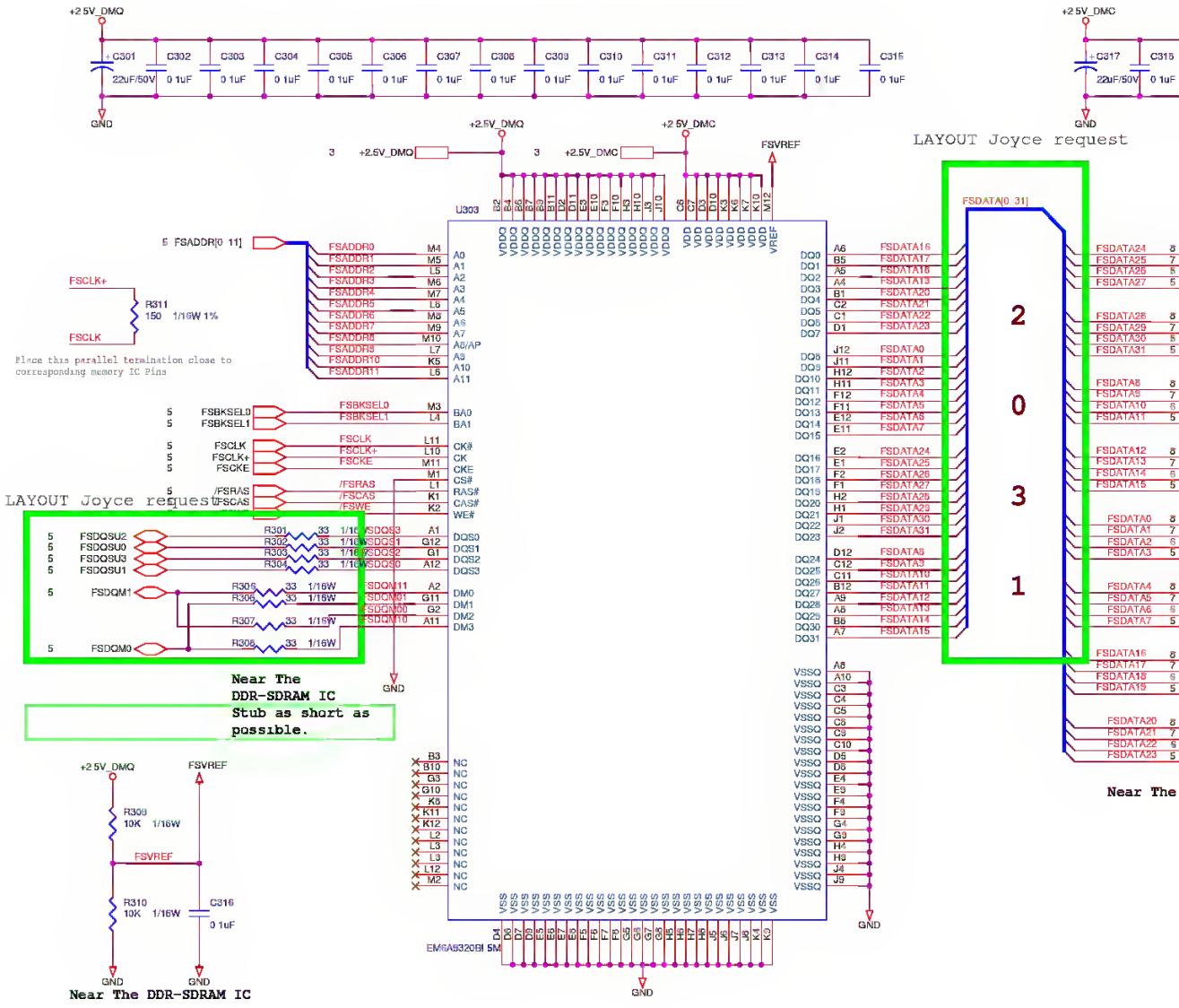

+3.3AVDD for
AVDD_DVI
pin4,pin10
+3.3AVDD for
AVDD_PLL
pin12
+3.3AVDD for
AVDDA
pin17,pin34
+3.3V(R251) for
AVDD_PLL2
pin105
+3.3V for
VDD_MFLL
pin204


pin182,pin182
pin68
Remove C94/C95/U13
+3.3DV1-->LCD I/F Pad
+3.3DV2-->Host bus
0414

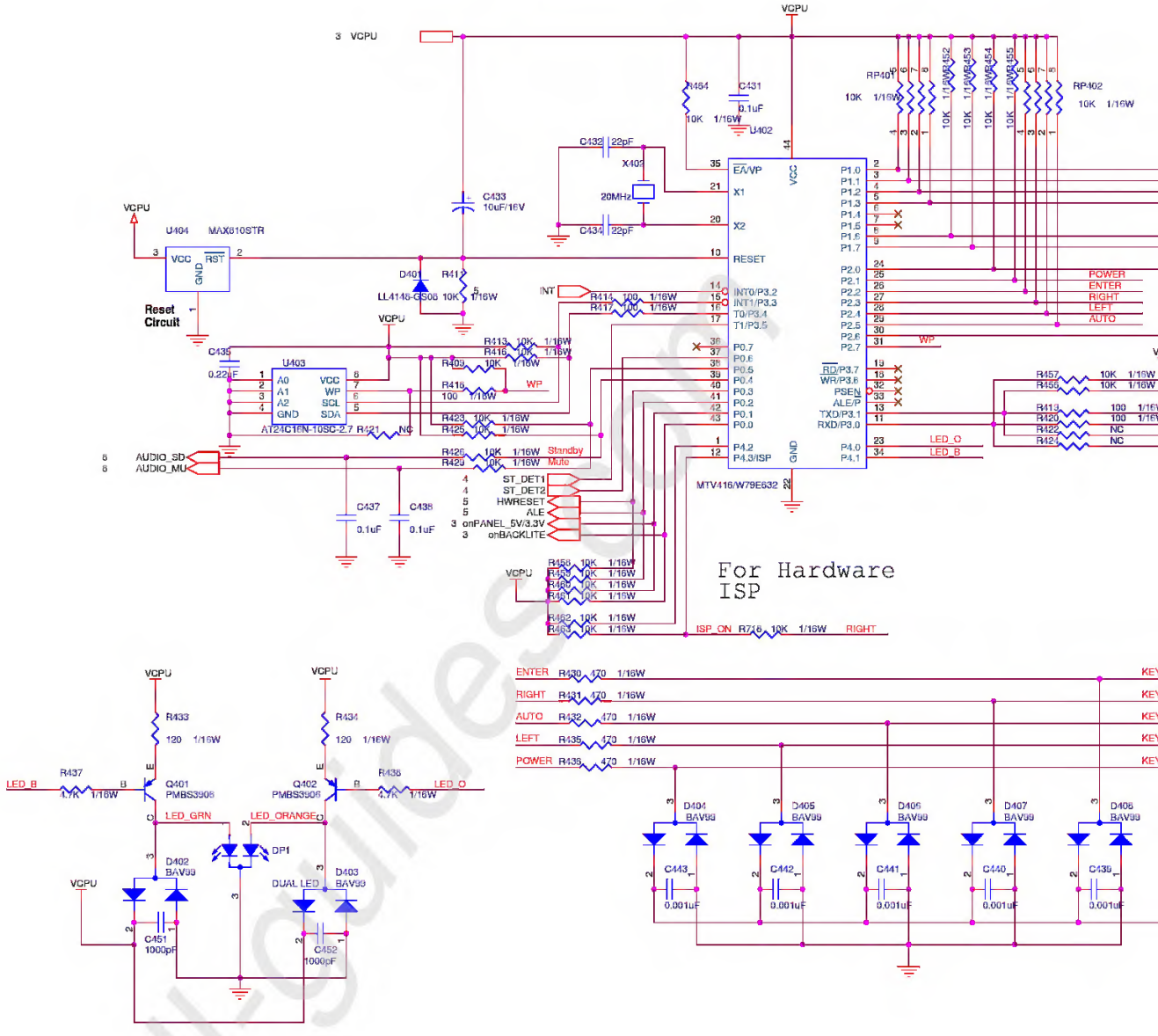

Change to AZ1084-18
TO263
1.8V for
VDDC
pin63,pin73,pin131
pin158,pin173,pin185,pin155
Audio PLL
1.8V
pin46
Change to
TO-252


DB15
RXD
TXD
PC5V
VGA_CON
CN101
D101
D102
TZMC5V6-GS08
FB101
FB102
FB103
R101
C101
R108
C106
R107
C107
R102
R103
R104
R105
C102
C103
C104
C105
RIN
GIN
BIN
SOG
R106
R109
R110
C108
C109
C110
GNDR
GNDG
GNDB
D103
D104
D105
BAV99
C111
C112
C113
VCC5V
R111
R112
R113
R115
ST_DET1
HSYNC
VSYNC
HSI
VSI
FB104
150 OHM
R114
D107
D108
D106
R116
C114
R117
C115
CLK_DDC
DAT_DDC
R121
R122
DDC_DAT
DDC_CLK
D110
D111
CN102
R123
R124
R125
R126
R127
ST_DET2
DVI5V
D113
D114
D115
D116
C117
R132
R133
R134
R135
R136
R137
B+
B-
G+
G
R+
R-
R138
R140
CLK+
CLK
D117
D118
D119
D120
D121
D122
D123
D124
C119
C120
C121
C122
C123
C124
C125
C126
JACK

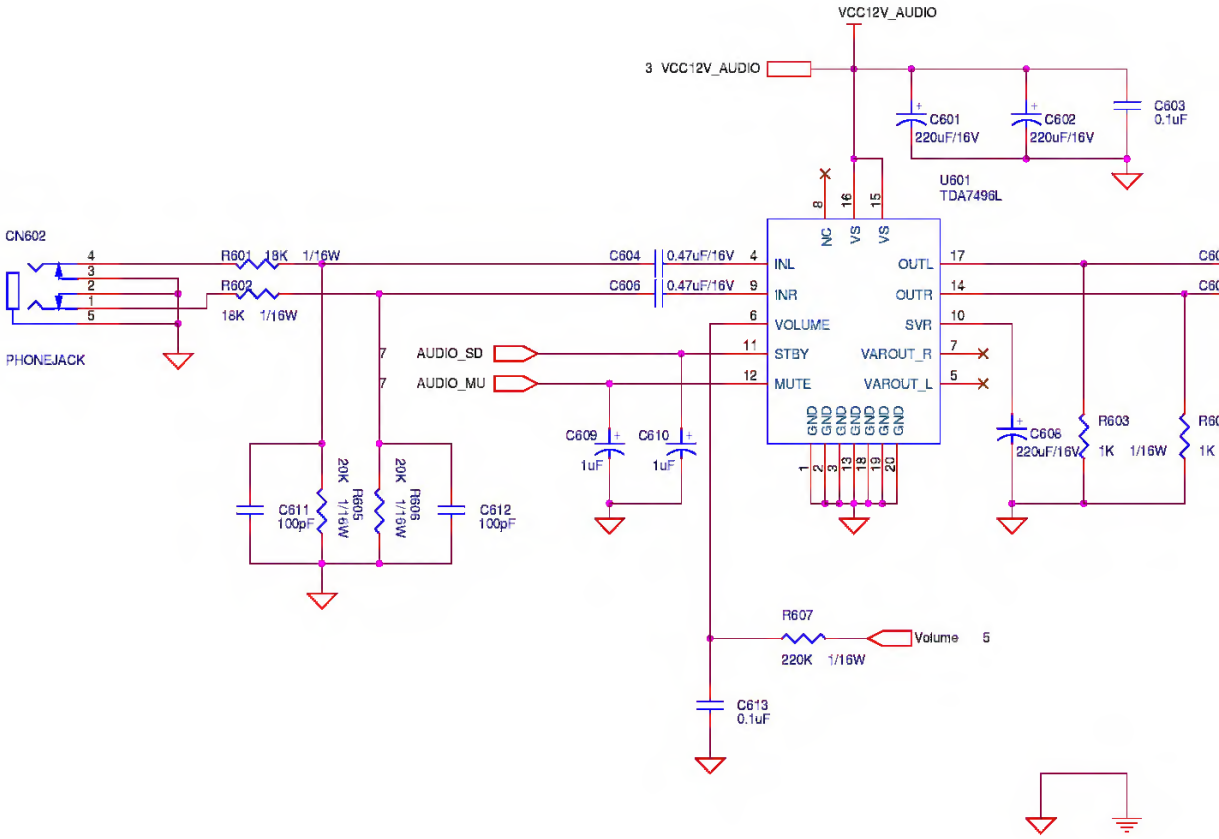

DVI INPUT
VGA INPUT
MCU INTERFACE
MST9251A(208Pin)
U401
For AOC LCD I/F-
F/W default set Odd/Even Sw
4/13/33

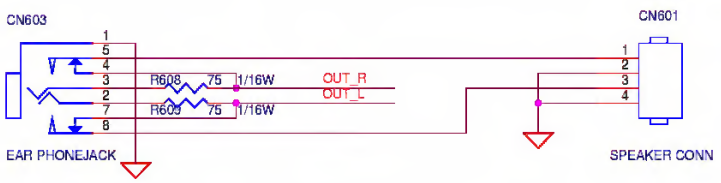

+2.5V_DMQ
+2.5V_DMC
GND
LAYOUT Joyce request
U303
EM68A8320BI 5M
FSADDR[0..11]
FSDATA[0..31]
FSCLK+
FSCLK
R311
150 1/16W 1%
Place this parallel termination close to corresponding memory IC Pins
FSBKSEL0
FSBKSEL1
FSCKE
/FSRAS
/FSCAS
/FSWE
FSDQSU2
FSDQSU0
FSDQSU3
FSDQSU1
FSDQM1
FSDQM0
Near The DDR-SDRAM IC Stub as short as possible.
FSVREF
R309 10K 1/16W
R310 10K 1/16W
C316 0.1uF
Near The DDR-SDRAM IC
Near The

All manuals and user guides at all-guides.com



All manuals and user guides at all-guides.com

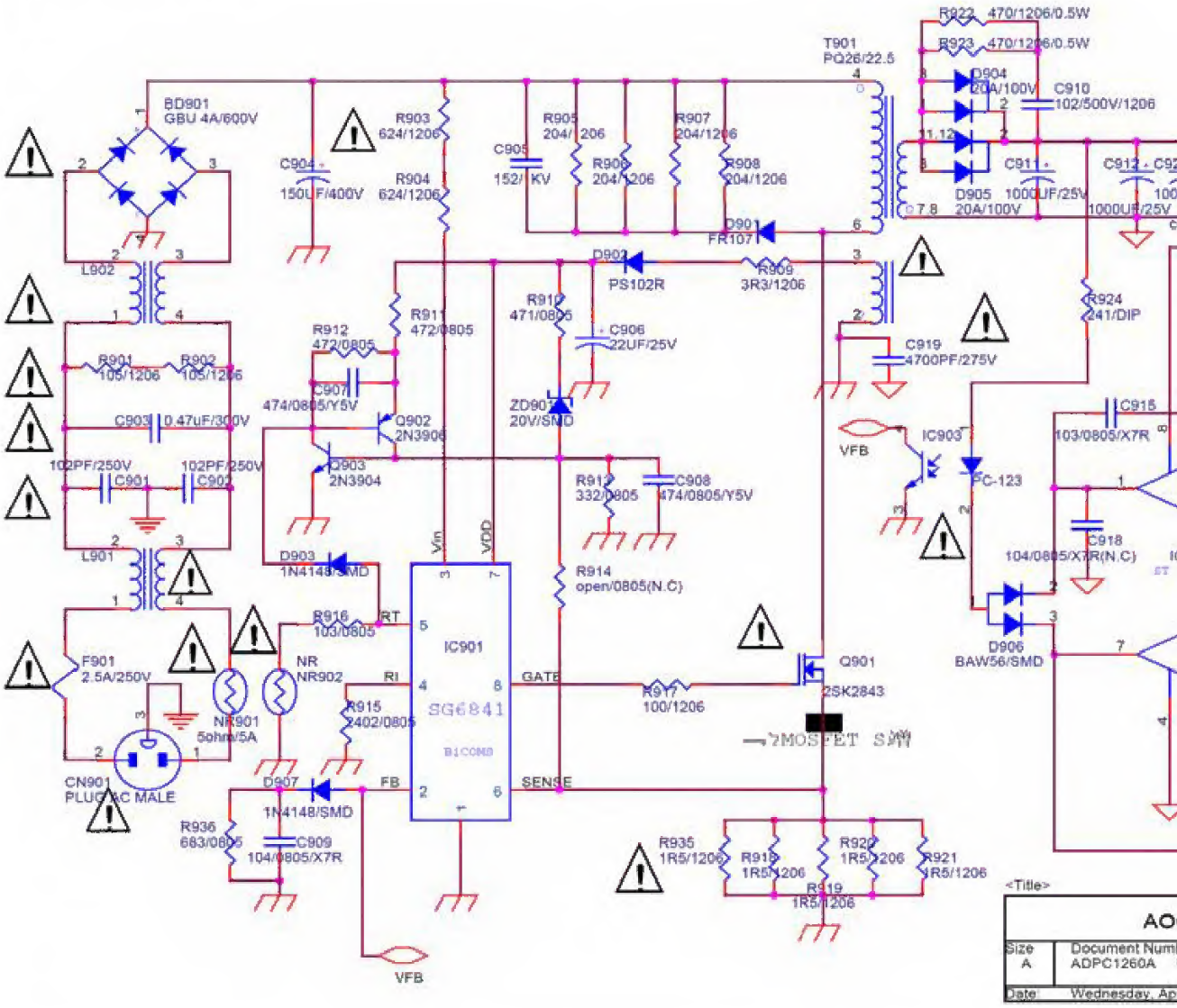




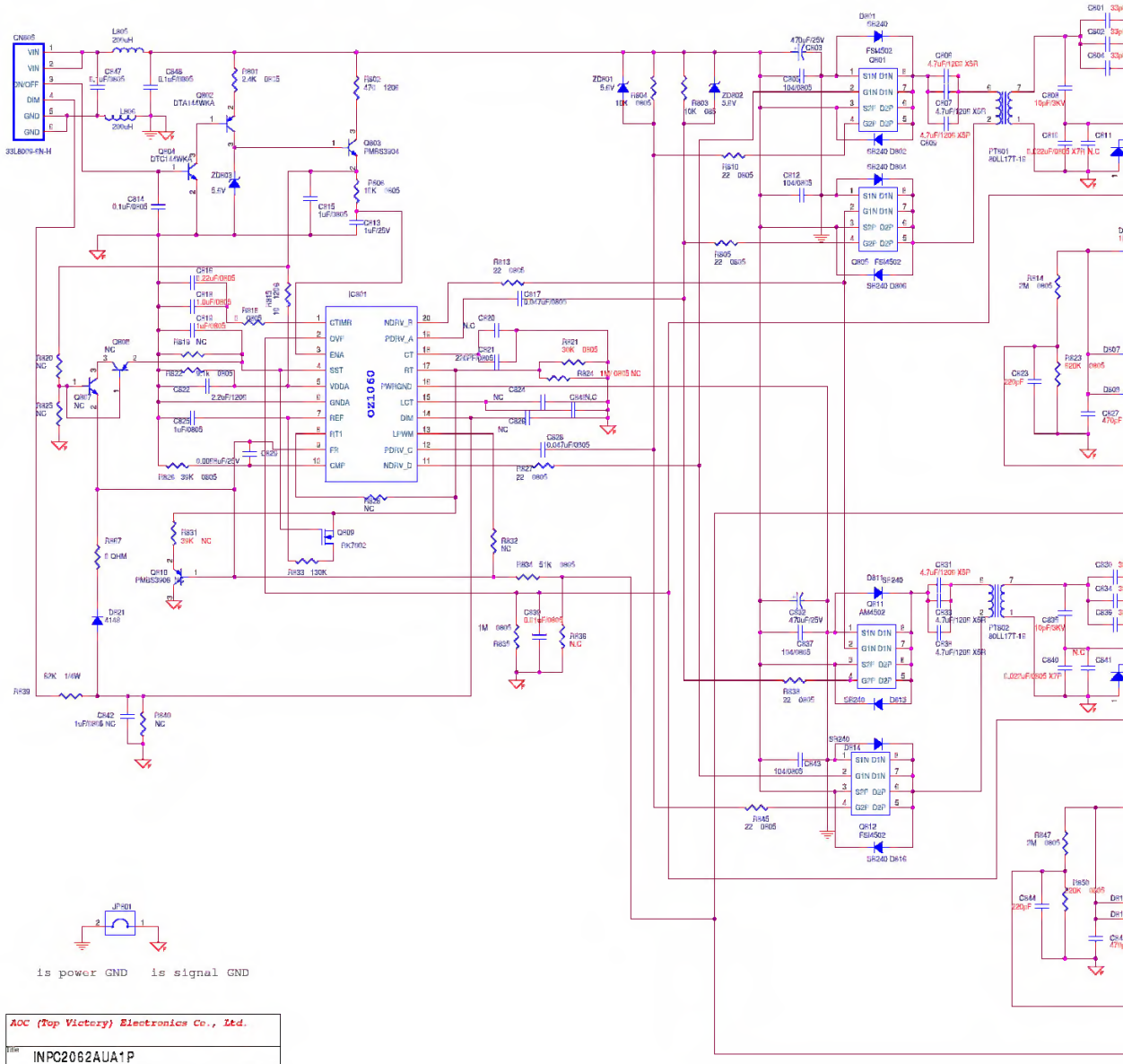
Title	715
Size A4	Document Nu
Date:	Tuesday, J

All manuals and user guides at all-guides.com

Power/Inverter board



All manuals and user guides at all-guides.com



AOC (Top Victory) Electronics Co., Ltd.		
Title: INPC2062AUA1P		
Size: Custom	Document Number: Tuesday, January 03, 2006	Rev: 2
Date:	Sheet: 2 of 3	